



## SEQUENCE LISTING

RECEIVED  
JUN 02 2003  
TECH CENTER 1600/2900

<110> INNOGENETICS N.V.

<120> New sequences of hepatitis C virus genotypes and their use as prophylactic, therapeutic and diagnostic agents.

<130> 2551-105

<140> US 08/836,075

<141> 1997-04-21

<150> EP 94870166.9

<151> 1994-10-21

<150> EP 95870076.7

<151> 1995-06-28

<160> 302

<170> PatentIn version 3.1

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<213> hepatitis C virus

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Arg Arg Pro Xaa Xaa Xaa Xaa Pro Gly Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Xaa Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Xaa Arg Xaa Glu Gly Arg Ser Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Xaa Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro  
100 105

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gtgtatcatg tcaccaacga ctgttccaac tcgagcatca tctatgagat ggacggat 180

atcatgcact acccagggtg cgtgccctgc gttcgggagg ataaccatct ccgctgctgg 240

atggcgctca ccccccacgct tgcggtcaaa aaygctagtg tccccactrc ggcaatccga	300
cgtcacgtcg acttgcttgt tgggggnncc acgttctgtt ccgctatgta cgtgggrgac	360
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Asp Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser  
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Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Xaa Thr Ala  
20 25 30

His Glu Val Arg Asn Ala Ser Gly Val Tyr His Val Thr Asn Asp Cys  
35 40 45

Ser Asn Ser Ser Ile Ile Tyr Glu Met Asp Gly Met Ile Met His Tyr  
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Glu Asp Asn His Leu Arg Cys Trp  
65 70 75 80

Met Ala Leu Thr Pro Thr Leu Ala Val Lys Xaa Ala Ser Val Pro Thr  
85 90 95

Xaa Ala Ile Arg Arg His Val Asp Leu Leu Val Gly Xaa Xaa Thr Phe  
100 105 110

Cys Ser Ala Met Tyr Val Xaa Asp Leu Cys Gly Ser Val Phe Leu Ala  
115 120 125

Gly Gln Leu Phe Thr Phe Ser Pro Arg Met His His Thr Thr Gln Glu  
130 135 140

Cys Asn Cys Ser Ile  
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ggccccaggt tgggtgtgcg cgccgaccagg aagacttccg agccgtcgca gcctcggtgac 180  
aggcgacagc ctattcctaa ggctcgccag tccgatggca gnnctgggc tcagccaggg 240  
catccctggc ccctctatgg caatgagggc tgcggatggg cgggatggct cctgtccccc 300  
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Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Asp Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Gln Ser Asp Gly Xaa Xaa Trp Ala Gln Pro Gly  
65 70 75 80

His Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro  
100 105

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gctttctgt cctgcttgac ggttccaact accgctcatg aggtgcgc当地 cgc当地ccggg 120  
gtatatcatc tcaccaatga ctgttccaac tcgagcatca tctatgagat gagtggtatg 180  
atcttgcacg ccccagggtg tgtgccctgc gttcgggaga acaactcttc tcggtctgg 240  
atgcccrtca cccccacgct tgcggtaaa gacgctaattc tccctactgc ggcaatccga 300  
cgccatgtcg acttgctggc tgggacagcc gcgttcgtt ccgctatgta cgtgggggac 360  
ctctgcggat ccgtcttcct tgcggccag ctattcacct tttcaccccg cttgtaccat 420  
acaacacagg agtgcaactg ctcaatc 447

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Asp Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser  
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Ile Phe Leu Leu Ala Phe Leu Ser Cys Leu Thr Val Pro Thr Thr Ala  
20 25 30

His Glu Val Arg Asn Ala Ser Gly Val Tyr His Leu Thr Asn Asp Cys  
35 40 45

Ser Asn Ser Ser Ile Ile Tyr Glu Met Ser Gly Met Ile Leu His Ala  
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Glu Asn Asn Ser Ser Arg Cys Trp  
65 70 75 80

Met Xaa Leu Thr Pro Thr Leu Ala Val Lys Asp Ala Asn Val Pro Thr  
85 90 95

Ala Ala Ile Arg Arg His Val Asp Leu Leu Val Gly Thr Ala Ala Phe  
100 105 110

Arg Ser Ala Met Tyr Val Gly Asp Leu Cys Gly Ser Val Phe Leu Val  
115 120 125

Gly Gln Leu Phe Thr Phe Ser Pro Arg Leu Tyr His Thr Thr Gln Glu  
130 135 140

Cys Asn Cys Ser Ile  
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ggccctagat tgggtgtgcg cgcaagcgccgg aagacttcgg agcggtcgca acctcgtggg 180  
aggcgccaaac ctattcccaa ggagcgccga cccgagggca ggt 223

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Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
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Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Val Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Ala Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Glu Arg Arg Pro Glu Gly Arg  
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ggccccaggt tgggtgtgcg cgcgacgagg aagacttccg agcggtcgca acctcgccga	180
aggcgacagc ctatccccaa ggctcgccga cccgagggca ggtcctggc tcagcctggg	240
tacccatggc ccctctatgc taacgagggc tgcggatggg cgggatggct cctgtccct	300
cgccgctccc gtcctagctg gggccccaaat gaccccccac gtagatcacg caatttgggt	360
aaggtcatcg ataccctaac gtgtggcttc gccgatctca tgggtacat tccgctcgtc	420
ggcgccccc tagggggcgc ttccagaacc ctgnacatg gtgtccgggt cctggnaggc	480
ggcgtgatnn nnnnnnnnnn naaccttccn gggtgctctt tnnctatctt cctcttggcn	540
ttactctctt gcctcacagt ccccacctct gcctatgagg tgcacagcac aaccgatggc	600
taccatgtca ctaatgactg ttccaaacggc agcatcgat atgaggcaaa ggacatcatc	660
cttcacacgc ctgggtgnngt gccctgcata cgggaaggca atatctcccg ttgctggta	720
ccgctcaccc ccacgctcgc agcgccgatc gogaacgctc ccatcgatga ggtgcggcgt	780
cacgtcgacc tcctcggtgg ggcagccgtg ttctgctcag ccatgtacat tggggacctt	840
tgtggggcgc tcttcctcgt tggcaattt ttcacattca cgtcccgccg gcattggacg	900
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20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala

35

40

45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Arg Pro Glu Gly Arg Ser Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Ala Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro  
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Leu  
130 135 140

Gly Gly Ala Ser Arg Thr Leu Xaa His Gly Val Arg Val Leu Xaa Gly  
145 150 155 160

Gly Val Xaa Xaa Xaa Xaa Asn Leu Xaa Gly Cys Ser Xaa Xaa Ile  
165 170 175

Phe Leu Leu Xaa Leu Leu Ser Cys Leu Thr Val Pro Thr Ser Ala Tyr  
180 185 190

Glu Val His Ser Thr Thr Asp Gly Tyr His Val Thr Asn Asp Cys Ser  
195 200 205

Asn Gly Ser Ile Val Tyr Glu Ala Lys Asp Ile Ile Leu His Thr Pro  
210 215 220

Gly Xaa Val Pro Cys Ile Arg Glu Gly Asn Ile Ser Arg Cys Trp Val  
225 230 235 240

Pro Leu Thr Pro Thr Leu Ala Ala Arg Ile Ala Asn Ala Pro Ile Asp  
245 250 255

Glu Val Arg Arg His Val Asp Leu Leu Val Gly Ala Ala Val Phe Cys  
260 265 270

Ser Ala Met Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu Val Gly  
275 280 285

Gln Leu Phe Thr Phe Thr Ser Arg Arg His Trp Thr Val Gln Asp Cys  
290 295 300

Asn Cys Ser Ile Tyr Ser Gly His Ile Thr Gly His Xaa Xaa Xaa  
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ggccccagat tgggtgtgcg cgccgacgaga aagacttctg aacggtccca gccacgtgga 180  
aggcgccagc ccatccctaa agatcggnngn gccactggca ggtccctgggg acgtccagga 240  
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20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Asp Arg Xaa Ala Thr Gly Arg Ser Trp Gly Arg Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly  
100 105

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ggaaacctcc ctggttgctc ctttctatc ttctngttgg ctcttctgtc ttgtgtcacc 180  
gtgcctgtct ctgnccgttga ggtcaaaaat accagtcagg cctatatggc aaccaacgac 240  
tgctccaaca acagcatcgt atggcaattt gnggacgcgg tgcttcatgt tcctggatgt 300  
gtccctgcg agaatacgctc cggtcgggatc cactgttggaa tcccgatctc gcccaacata 360  
gccgtgagca aacctggtgc tctcaccaag ggactgcggg cacgcattga tgccgtcgtg 420  
atgtccgcca ccctctgctc tgccctgtac gtgggagatg tgtgcggcgc agtcatgata 480  
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Pro Val Gly Gly Xaa Ala Arg Ala Leu Ala Xaa Gly Val Arg Val Leu  
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Glu Asp Gly Ile Asn Tyr Xaa Thr Gly Asn Leu Pro Gly Cys Ser Phe  
35 40 45

Ser Ile Phe Xaa Leu Ala Leu Ser Cys Val Thr Val Pro Val Ser  
50 55 60

Xaa Val Glu Val Lys Asn Thr Ser Gln Ala Tyr Met Ala Thr Asn Asp  
65 70 75 80

Cys Ser Asn Asn Ser Ile Val Trp Gln Leu Xaa Asp Ala Val Leu His  
85 90 95

Val Pro Gly Cys Val Pro Cys Glu Asn Ser Ser Gly Arg Phe His Cys  
100 105 110

Trp Ile Pro Ile Ser Pro Asn Ile Ala Val Ser Lys Pro Gly Ala Leu  
115 120 125

Thr Lys Gly Leu Arg Ala Arg Ile Asp Ala Val Val Met Ser Ala Thr  
130 135 140

Leu Cys Ser Ala Leu Tyr Val Gly Asp Val Cys Gly Ala Val Met Ile  
145 150 155 160

Ala Ala Gln Ala Phe Ile Val Ala Pro Lys Arg His Tyr Phe Val Gln  
165 170 175

Glu Cys Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met  
180 185 190

Ala

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ggccccaggt tgggtgtgcg cgcccaagg aagacttctg aacggtccc gccacgtgga 180  
aggcgccagc ccatccaaa agatcgccgc gccactggca agtcctgggg acgtccagga 240  
tacccttggc ccctgtacgg gaacgagggc ctggctggg cagggtggct cctgtcccc 300  
cggggctctc gcccctcgta gggccaaac gaccccccgc acaggtcacg caacttgggt 360

aaggcatcg ataccctcac gtgtggctt gscgaccta tgggtacat acctgtcg	420
ggcgccccgt tggcgccgt tgccagagcc ctcgcgcata gcgtgcgggt cctggaggac	480
gggataaatt atgcaacagg gaacttgccc gggtgctcct tttctatctt cttgtggct	540
ctcttgcctt gtatcaccgt gcccgtgtct gccatacagg ttaagaacaa cagccacttc	600
tacatggcga ctaatgactg tgccaatgac agcatcgtct ggcagctcag ggacgcgg	660
ctccatgttc ctggatgtgt cccctgtgag aggtcaggta ataggacctt ctgttggaca	720
gcggctcgc ccaacgtggc tgtgagccga cctggtgctc tcactagagg tctgcggc	780
cacattgata ccacgtgtat gtccgccacc ctctgctctg ccctatacat aggggaccta	840
tgccgcgtg tgatgatagc agcgcaagtt gccgtcgtct caccgcaata ccatacttt	900
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Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
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Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala

35

40

45

Pro Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Asp Arg Arg Ala Thr Gly Lys Ser Trp Gly Arg Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro  
100 105 110

Arg His Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Xaa Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val  
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp  
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Ile Thr Val Pro Val Ser Ala Ile  
180 185 190

Gln Val Lys Asn Asn Ser His Phe Tyr Met Ala Thr Asn Asp Cys Ala  
195 200 205

Asn Asp Ser Ile Val Trp Gln Leu Arg Asp Ala Val Leu His Val Pro  
210 215 220

Gly Cys Val Pro Cys Glu Arg Ser Gly Asn Arg Thr Phe Cys Trp Thr  
225 230 235 240

Ala Val Ser Pro Asn Val Ala Val Ser Arg Pro Gly Ala Leu Thr Arg  
245 250 255

Gly Leu Arg Ala His Ile Asp Thr Ile Val Met Ser Ala Thr Leu Cys  
260 265 270

Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Ala Val Met Ile Ala Ala  
275 280 285

Gln Val Ala Val Val Ser Pro Gln Tyr His Thr Phe Val Gln Glu Cys  
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Xaa  
305 310 315

<210> 19  
<211> 447  
<212> DNA  
<213> hepatitis C virus

<400> 19  
gacgggttaa attatgcaac aggaaatctg cctgggtgct ctttctctat cttcttggtg 60  
gctcttctgt cttgtgtcac cgtgcctgtc tctgccgtgc aggttaagaa caccagtacc 120  
atgtacatgg caaccaatga ctgttccaac aacagcatca tctggcaaatt gcagggcg 180  
gtgcttcatg ttcctggatg tgtccgtgt gagttgcagg gcaataagtc ccgggtctgg 240  
ataccggtca ctcccaacgt ggctgtgaac cagcccgcg ccctcaactag gggcttgcgg 300  
acgcacattt acaccatcgt gatggtcgct acgctctgtt ctgcactcta catggggac 360  
gtgtgtggcg cggtgatgat agctgctcag gttgtcattt tctcgccgca acatcacaac 420  
ttttcccaagg attgcaattt ttccatc 447

<210> 20  
<211> 149  
<212> PRT  
<213> hepatitis C virus

<400> 20  
Asp Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser  
1 5 10 15

Ile Phe Leu Leu Ala Leu Leu Ser Cys Val Thr Val Pro Val Ser Ala

20

25

30

Val Gln Val Lys Asn Thr Ser Thr Met Tyr Met Ala Thr Asn Asp Cys  
35 40 45

Ser Asn Asn Ser Ile Ile Trp Gln Met Gln Gly Ala Val Leu His Val  
50 55 60

Pro Gly Cys Val Pro Cys Glu Leu Gln Gly Asn Lys Ser Arg Cys Trp  
65 70 75 80

Ile Pro Val Thr Pro Asn Val Ala Val Asn Gln Pro Gly Ala Leu Thr  
85 90 95

Arg Gly Leu Arg Thr His Ile Asp Thr Ile Val Met Val Ala Thr Leu  
100 105 110

Cys Ser Ala Leu Tyr Ile Gly Asp Val Cys Gly Ala Val Met Ile Ala  
115 120 125

Ala Gln Val Val Ile Val Ser Pro Gln His His Asn Phe Ser Gln Asp  
130 135 140

Cys Asn Cys Ser Ile  
145

<210> 21  
<211> 310  
<212> DNA  
<213> hepatitis C virus

<400> 21  
atgagcacaa atcctaaacc tcaaagaaaa accaaaagaa acactaaccg ccgcccacag 60  
gacgttaagt tccccggcgg tggccagatc gttggcggag tatacttggt gccgcgcagg 120  
ggcccccggt tgggtgtgcg cgcgacgagg aaaacttccg aacggtcccc gccacgtggg 180  
aggcgccagc ccatccctaa agatcggcgc tccactggca aatcctgggg acgtccagga 240  
tacccttggc ccctgtatgg gaacgagggc cttgggtggg caggatggct cttgtcccc 300  
cgaggctctc 310

<210> 22  
<211> 48  
<212> PRT  
<213> hepatitis C virus

<400> 22

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gly Arg Ser Leu Ala  
20 25 30

Glu Tyr Thr Cys Ala Arg Arg Gly Lys Leu Arg Arg Ser Ser Met Gly  
35 40 45

<210> 23  
<211> 447  
<212> DNA  
<213> hepatitis C virus

<400> 23  
gacgggataa actacgcaac aggaaatctg cccgggtgct ccttttctat cttcttgctg 60  
gccttgctat cctgtctcac tgtgccggcg tccgctgtgc aggtcaagaa caccagccac 120  
tcttatatgg tgaccaatga ttgctcaaacc agcagcattt tctggcagct taaggatgct 180  
gtgcttcacg tccctggatg tgttccatgt gagaggcacc aaaatcagtc tcgctgctgg 240  
atacctgtga caccaatgt ggccgtgagc caacctggcg cgctcaccag gggtttgcgg 300  
acgcacattt acaccatcgt tgcgtctgct accgtctgct cagcttgta tgtgggcac 360  
ttctgcggcg cagtgatgtt ggtctctcaa ttttcatga tctccctca gcaccacatc 420  
ttcgtccagg attgcaactg ctcgata 447

<210> 24  
<211> 149  
<212> PRT  
<213> hepatitis C virus

<400> 24

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser  
1 5 10 15

Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala  
20 25 30

Val Gln Val Lys Asn Thr Ser His Ser Tyr Met Val Thr Asn Asp Cys  
35 40 45

Ser Asn Ser Ser Ile Val Trp Gln Leu Lys Asp Ala Val Leu His Val  
50 55 60

Pro Gly Cys Val Pro Cys Glu Arg His Gln Asn Gln Ser Arg Cys Trp  
65 70 75 80

Ile Pro Val Thr Pro Asn Val Ala Val Ser Gln Pro Gly Ala Leu Thr  
85 90 95

Arg Gly Leu Arg Thr His Ile Asp Thr Ile Val Ala Ser Ala Thr Val  
100 105 110

Cys Ser Ala Leu Tyr Val Gly Asp Phe Cys Gly Ala Val Met Leu Val  
115 120 125

Ser Gln Phe Phe Met Ile Ser Pro Gln His His Ile Phe Val Gln Asp  
130 135 140

Cys Asn Cys Ser Ile  
145

<210> 25  
<211> 356  
<212> DNA  
<213> hepatitis C virus

<400> 25  
gacgggataa actatgcaac aggaaacctg cctggttgct cctttctat cttcttactg 60

gcctgcttt cttgcacac cgtccggtc tctgcgtgc aagttgcgaa ccgcagtgg	120
tcttacatgg tgaccaatga ttgctcgaac agcagcatcg tttggcagct cgaggaggcc	180
gtccttcacg tccctggatg tggccctgt gagtggagg acaacaccc tcgctgctgg	240
ataccggtca cccctaaca cgctgtgagc caacctggcg cgcttaccaa gggcctgcgg	300
acacatattg acatcattgt cgctccgccc acgttctgct ctgccttgcgttgtgg	356

<210> 26  
<211> 118  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (95)..(95)  
<223> Xaa represents any amino acid

<400> 26

Asp	Gly	Ile	Asn	Tyr	Ala	Thr	Gly	Asn	Leu	Pro	Gly	Cys	Ser	Phe	Ser
1															15

Ile	Phe	Leu	Leu	Ala	Leu	Leu	Ser	Cys	Ile	Thr	Val	Pro	Val	Ser	Ala
20								25					30		

Val	Gln	Val	Ala	Asn	Arg	Ser	Gly	Ser	Tyr	Met	Val	Thr	Asn	Asp	Cys
35								40					45		

Ser	Asn	Ser	Ser	Ile	Val	Trp	Gln	Leu	Glu	Glu	Ala	Val	Leu	His	Val
50								55					60		

Pro	Gly	Cys	Val	Pro	Cys	Glu	Trp	Lys	Asp	Asn	Thr	Ser	Arg	Cys	Trp
65								70					75		80

Ile	Pro	Val	Thr	Pro	Asn	Ile	Ala	Val	Ser	Gln	Pro	Gly	Ala	Xaa	Thr
85									90					95	

Lys	Gly	Leu	Arg	Thr	His	Ile	Asp	Ile	Ile	Val	Ala	Ser	Ala	Thr	Phe
100									105					110	

Cys Ser Ala Leu Tyr Val  
115

<210> 27  
<211> 310  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (283)..(284)  
<223> n represents any nucleotide

<400> 27  
atgagcacga atcctaaacc tcaaagaaaa accaaacgta acaccaaccg ccgccccatg 60  
gacgttaagt tcccggttgg tggccagatc gttggcggag tttacttggt gccgcgcagg 120  
ggccccaggt tgggtgtgcg cgcgactcgg aagacttcgg agcggtcgca acctcgtggg 180  
agacgccaac ctatccccaa ggcgcgtcga tccgagggaa ggtcctggc acagccagga 240  
tatccatggc ctctttacgg taatgagggg tgcgggtggg cannatggct cttgtcccc 300  
cgcggttctc 310

<210> 28  
<211> 117  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (95)..(95)  
<223> Xaa represents any amino acid

<400> 28

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly

20

25

30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Xaa Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro  
100 105 110

Arg Arg Arg Ser Arg  
115

<210> 29  
<211> 447  
<212> DNA  
<213> hepatitis C virus

<400> 29  
gacggatca atttgcaac aggaaacctc cccgggtgct cctttctat ctccctttg 60  
gcactcctct cgtgcctgac tgtccccgt tcggccatca actatcgcaa tgtctcgccc 120  
atttactatg tcaccaatga ttgcccgaat tcaagcatag tgtatgaggc cgaccatcac 180  
atcttgcacc tcccagggttgcgtgcctgc gtgagagagg ggaatcagtc acgttgcgtgg 240  
gtagccctta cccctaccgt cgcaagcgcca tacatcgccg cgccacttga gtctctacgg 300  
agtcatgtgg acttcatgtggt gggggccgccc actgtttgtt cagcccttta catcggggat 360  
ttrtgtgggg gcttgttcct agtcggtcag atgttctt tccgaccaag gcccactgg 420  
actactcaag attgcaatttgcattt 447

<210> 30  
<211> 149

<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (121)..(121)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (123)..(123)  
<223> Xaa represents any amino acid

<400> 30

Asp Gly Ile Asn Phe Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser  
1 5 10 15

Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala  
20 25 30

Ile Asn Tyr Arg Asn Val Ser Gly Ile Tyr Tyr Val Thr Asn Asp Cys  
35 40 45

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu His Leu  
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Glu Gly Asn Gln Ser Arg Cys Trp  
65 70 75 80

Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Ile Gly Ala Pro Leu  
85 90 95

Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr Val  
100 105 110

Cys Ser Ala Leu Tyr Ile Gly Asp Xaa Cys Xaa Gly Leu Phe Leu Val  
115 120 125

Gly Gln Met Phe Ser Phe Arg Pro Arg Arg His Trp Thr Thr Gln Asp  
130 135 140

Cys Asn Cys Ser Ile  
145

<210> 31  
<211> 447  
<212> DNA  
<213> hepatitis C virus

<400> 31  
gacgggatca attatgcaac aggaaacctt cccgggtgct cttttctat cttcctcttg 60  
gcactcctct cgtgcctgac tggcccgct tcggccatta actaccgcaa cacctcgccc 120  
atctaccacg tcaccaatga ctgcccgaac tcgagcatag tttatgaggc cgaccaccac 180  
atcttgcacc ttccaggttg cgtgcctgc gtgagaactg ggaatcagtc acgttgctgg 240  
gtggccctta ctccctaccgt cgcaagcgcca tacatcgccg caccgcttga gtctctgcgg 300  
agtcatgtgg atctgatggt gggggctgcc actgtttgct cagcccttta catcgggat 360  
ttgtgtggcg gcttgttctt ggttggtcag atgtttctt tccgaccacg acgccactgg 420  
actgcccagg attgcaatttgc ttctatc 447

<210> 32  
<211> 149  
<212> PRT  
<213> hepatitis C virus

<400> 32

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser  
1 5 10 15

Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala  
20 25 30

Ile Asn Tyr Arg Asn Thr Ser Gly Ile Tyr His Val Thr Asn Asp Cys  
35 40 45

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu His Leu  
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Gln Ser Arg Cys Trp  
65 70 75 80

Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Ile Gly Ala Pro Leu  
85 90 95

Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr Val  
100 105 110

Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Leu Phe Leu Val  
115 120 125

Gly Gln Met Phe Ser Phe Arg Pro Arg Arg His Trp Thr Ala Gln Asp  
130 135 140

Cys Asn Cys Ser Ile  
145

<210> 33  
<211> 447  
<212> DNA  
<213> hepatitis C virus

<400> 33  
gacgggattt attatgcac agggatctt cccgggtgct ccttttctat cttccctttg 60  
gcacttctct cgtgcctgac tgtccccgtc tcggccattt actaccacaa cacctgggc 120  
atctatcata tcaccaacga ctgcccgaat tcaagcatag tgtatgagggc cgaccatcac 180  
atcttgcattc tcccagggtt cgtgcctgc gtgagagtgg ggaatcagtc gagttgctgg 240  
gtggccctta cccctaccat cgcagcgcca tacatggcg caccgcttga gtccttgcgg 300  
agtcatgtgg atctgatggt gggggcggcc actgtctgtt cagcccttta catcgggat 360  
tttgtgtggcg gtgcgttctt gggtggtcag atgttctttt tccgaccacg gcccactgg 420  
accacccaag attgcaactg ctccatc 447

<210> 34  
<211> 149  
<212> PRT

<213> hepatitis C virus

<400> 34

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser  
1 5 10 15

Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala  
20 25 30

Ile Asn Tyr His Asn Thr Ser Gly Ile Tyr His Ile Thr Asn Asp Cys  
35 40 45

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu His Leu  
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Val Gly Asn Gln Ser Ser Cys Trp  
65 70 75 80

Val Ala Leu Thr Pro Thr Ile Ala Ala Pro Tyr Ile Gly Ala Pro Leu  
85 90 95

Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr Val  
100 105 110

Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Ala Phe Leu Val  
115 120 125

Gly Gln Met Phe Ser Phe Arg Pro Arg Arg His Trp Thr Thr Gln Asp  
130 135 140

Cys Asn Cys Ser Ile  
145

<210> 35

<211> 447

<212> DNA

<213> hepatitis C virus

<400> 35

gacgggatca attatgcaac aggaaatatt cccgggtgct cyttttctat cttccttgy	60
gcacttctct cgtgtctgac tgtcccgct tcggccacta actatcgcaa cgtctcgccc	120
atctaccatg tcaccaatga ctgcccgaat tcaagcatag tgtatgaggc cgaccatcac	180
atcttagcac ttccaggttg cgtgccctgc gtgagagtgg ggaaccagtc acgctgctgg	240
gtggccctta cccctaccgt cgcaagcgcca tacaccgcgg cgccgcttga gtccctgcgg	300
agtcatgtgg atctgatggt gggagctgcc actgtttgtt cagcccttta catggggay	360
ttgtgtggcg gcttgttctt gttggtcag atgttctctt tycagcctcg ggcactgg	420
actacccagg attgcaatttgc ttccatc	447

<210> 36  
<211> 149  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (14)..(14)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (20)..(20)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (120)..(120)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (134)..(134)  
<223> Xaa represents any amino acid

<400> 36

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Ile Pro Gly Cys Xaa Phe Ser

1

5

10

15

Ile Phe Leu Xaa Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala  
20 25 30

Thr Asn Tyr Arg Asn Val Ser Gly Ile Tyr His Val Thr Asn Asp Cys  
35 40 45

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu Ala Leu  
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys Trp  
65 70 75 80

Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Thr Ala Ala Pro Leu  
85 90 95

Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr Val  
100 105 110

Cys Ser Ala Leu Tyr Ile Gly Xaa Leu Cys Gly Gly Leu Phe Leu Val  
115 120 125

Gly Gln Met Phe Ser Xaa Gln Pro Arg Arg His Trp Thr Thr Gln Asp  
130 135 140

Cys Asn Cys Ser Ile  
145

<210> 37  
<211> 447  
<212> DNA  
<213> hepatitis C virus

<400> 37  
gacgggattta attatgcaac aggaaayctc cccgggttgct ctttttctat cttcctcttg 60  
gcacttctct cgtgcctgac tgtccccgtc tcggccacca actaccgcaa tgtctcgggc 120  
atttaccatg tcaccaatga ctgcccgaat tcaagcatac tgtttgaggc cgaccatcac 180  
atcttgacc ttccaggatg cgtgccctgc gtgaaagagg gaaatcattc acgctgctgg 240

gtggccctta cccctaccgt cgcagcgcca tacatggcg cgccacttga gtctctacgg	300
agtcatgtgg atgtgatggc gggggctgcc actgtttgtt cagcccttta catcgggat	360
ctgtgcggtg gcttgttcct gttggtcag atgttctttt tccgaccacg gcccactgg	420
actacccagg aatgcaattt ttccatc	447

<210> 38  
<211> 149  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (9)..(9)  
<223> Xaa represents any amino acid

<400> 38

Asp	Gly	Ile	Asn	Tyr	Ala	Thr	Gly	Xaa	Leu	Pro	Gly	Cys	Ser	Phe	Ser
1									10					15	

Ile	Phe	Leu	Leu	Ala	Leu	Leu	Ser	Cys	Leu	Thr	Val	Pro	Ala	Ser	Ala
								20		25			30		

Thr	Asn	Tyr	Arg	Asn	Val	Ser	Gly	Ile	Tyr	His	Val	Thr	Asn	Asp	Cys
								35		40			45		

Pro	Asn	Ser	Ser	Ile	Val	Phe	Glu	Ala	Asp	His	His	Ile	Leu	His	Leu
						50		55			60				

Pro	Gly	Cys	Val	Pro	Cys	Val	Lys	Glu	Gly	Asn	His	Ser	Arg	Cys	Trp
65						70			75			80			

Val	Ala	Leu	Thr	Pro	Thr	Val	Ala	Ala	Pro	Tyr	Ile	Gly	Ala	Pro	Leu
									85		90			95	

Glu	Ser	Leu	Arg	Ser	His	Val	Asp	Val	Met	Val	Gly	Ala	Ala	Thr	Val
						100		105			110				

Cys	Ser	Ala	Leu	Tyr	Ile	Gly	Asp	Leu	Cys	Gly	Gly	Leu	Phe	Leu	Val
								115		120		125			

Gly Gln Met Phe Ser Phe Arg Pro Arg Arg His Trp Thr Thr Gln Glu  
130 135 140

Cys Asn Cys Ser Ile  
145

<210> 39  
<211> 447  
<212> DNA  
<213> hepatitis C virus

<400> 39  
gacgggatca attatgcaac agggAACCTC CCCGGTTGCT CTTCTCTAT CTTCATCCTG 60  
gcacttctct cgtgcctgac tgtccggcc tcggctcagc attatcgaa tgtctcggc 120  
atttaccacg tcaccaacga ctgcccgaac tccagcatacg tgtatgagtc cgaccatcac 180  
atcttacacc taccagggtg tgtaccctgt gtgaagactg ggaacacttc gcgctgctgg 240  
gtggccttaa cacctaccgt ggccgcgccc atacttcgg ctccacttat gtccgtacgg 300  
cggcatgtgg atctgatggc ggggcagct accctatcgt ctgcccctcta cggtggagac 360  
ctctgcgggg gtgccttcct agtggggcag atgttacacct tccagccgcg tcgcccactgg 420  
actgtccaag actgcaactg ttccatc 447

<210> 40  
<211> 149  
<212> PRT  
<213> hepatitis C virus

<400> 40

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser  
1 5 10 15

Ile Phe Ile Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala  
20 25 30

Gln His Tyr Arg Asn Val Ser Gly Ile Tyr His Val Thr Asn Asp Cys

35

40

45

Pro Asn Ser Ser Ile Val Tyr Glu Ser Asp His His Ile Leu His Leu  
50 55 60

Pro Gly Cys Val Pro Cys Val Lys Thr Gly Asn Thr Ser Arg Cys Trp  
65 70 75 80

Val Ala Leu Thr Pro Thr Val Ala Ala Pro Ile Leu Ser Ala Pro Leu  
85 90 95

Met Ser Val Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr Leu  
100 105 110

Ser Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Ala Phe Leu Val  
115 120 125

Gly Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Val Gln Asp  
130 135 140

Cys Asn Cys Ser Ile  
145

<210> 41  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (383)..(383)  
<223> n represents any nucleotide

<220>  
<221> misc\_feature  
<222> (924)..(924)  
<223> n represents any nucleotide

<220>  
<221> misc\_feature  
<222> (387)..(387)  
<223> n represents any nucleotide

<220>  
<221> misc\_feature  
<222> (928)..(928)  
<223> n represents any nucleotide

<400> 41  
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ggccctcggt tgggtgtcg cgacgacgaga aagaccccg aacggtccc gcctagaggc 180  
aggcgccagc ccataccaaa ggtacgcccag ccgacaggcc gtagctgggg tcaacccggc 240  
tacccttggc cccttatgg caacgagggc tgccggatggg cgggatggct cctgtcccc 300  
cgccggtctc gtcctaattg gggcccaac gaccccgcc gaaggtccc caacttgggt 360  
aaggtcatcg atacccttac atncggncata gccgacacta tgggtacat ccctgtccta 420  
ggagggccgc ttggcggcgt tgccggatggc ctggcgcatg gcgttagggc aatcgaggac 480  
gggtcaatt acgcaacagg gaatcttcct ggttgcctt tttctatctt cctcttagca 540  
ctgttatcgt gcctcaactac accagcctca gcaattcaag tcaagaacgc ctctggatc 600  
taccatctta ccaatgactg ctcgaacaac agcatcggtt ttgaggcggg gaccatgata 660  
ctgcatttc cagggttgtt cccatgtatc aaggcgggga atgagtacg atgttggctc 720  
cctgtctccc ccaccttagc cgtcccaac tcatcagtgc caatccacgg gtttcggcga 780  
cacgttagacc tcctcggtgg ggcagcggca ttttggcg ccatgtacat cggagacctc 840  
tgtggtagca taatcttggt agggcagctt tttactttca ggcctaagta ccatcagggtt 900  
accaggatt gtaactgctc tatnaacnct ggccacgtca cgggacacag gatggca 957

<210> 42  
<211> 319  
<212> PRT  
<213> hepatitis C virus  
  
<220>  
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<222> (128)..(129)  
<223> Xaa represents any amino acid

<220>  
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<222> (308)..(308)  
<223> Xaa represents any amino acid

<220>  
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<222> (310)..(310)  
<223> Xaa represents any amino acid

<400> 42

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Val Arg Gln Pro Thr Gly Arg Ser Trp Gly Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro  
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Xaa  
115 120 125

Xaa Leu Ala Asp Leu Met Gly Tyr Ile Pro Val Leu Gly Gly Pro Leu  
130 135 140

Gly Gly Val Ala Ala Ala Leu Ala His Gly Val Arg Ala Ile Glu Asp

145

150

155

160

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Thr Pro Ala Ser Ala Ile  
180 185 190

Gln Val Lys Asn Ala Ser Gly Ile Tyr His Leu Thr Asn Asp Cys Ser  
195 200 205

Asn Asn Ser Ile Val Phe Glu Ala Glu Thr Met Ile Leu His Leu Pro  
210 215 220

Gly Cys Val Pro Cys Ile Lys Ala Gly Asn Glu Ser Arg Cys Trp Leu  
225 230 235 240

Pro Val Ser Pro Thr Leu Ala Val Pro Asn Ser Ser Val Pro Ile His  
245 250 255

Gly Phe Arg Arg His Val Asp Leu Leu Val Gly Ala Ala Ala Phe Cys  
260 265 270

Ser Ala Met Tyr Ile Gly Asp Leu Cys Gly Ser Ile Ile Leu Val Gly  
275 280 285

Gln Leu Phe Thr Phe Arg Pro Lys Tyr His Gln Val Thr Gln Asp Cys  
290 295 300

Asn Cys Ser Xaa Asn Xaa Gly His Val Thr Gly His Arg Met Ala  
305 310 315

<210> 43  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<220>  
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<222> (446)..(446)  
<223> n represents any nucleotide

<220>

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<222> (467)..(467)
<223> n represents any nucleotide
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<223> n represents any nucleotide
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<220>
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<223> n represents any nucleotide
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<223> n represents any nucleotide
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<222> (513)..(514)
<223> n represents any nucleotide
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<223> n represents any nucleotide
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<223> n represents any nucleotide
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<400> 43		
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gacgtcaagt tccccgggtgg cggccagatc gttgggtggag tctacttgct gccgcgcagg	120	
ggcccgcgct tgggtgtgcg cgcgacgaga aagacttctg aacggtccca gcccagaggt	180	

aggcgccaaac caataccaa agtgcgccac caaacgggcc gtacctggc ccagccccggg	240
tacccctggc ctcttatgg aaatgagggc tgtggttggg caggctggct cctgtccccc	300
cgccggctctc gcccaaattg gggcccaaac gaccccccggc ggaggtcccg caacttgggt	360
aaagtcatcg acacccttac ttgcggcttc gccgacacta tgggtatat ccctgtcgta	420
ggcgctccgw tgggaggcgt cgccggngcc ttggcgcatg gggtcanggn catcgaggac	480
ggngtaaatt acgcaacagn gaatcttccc ggnngctctn tctctatctt nctttggca	540
cttctctcgt gccttacaac accagcctcc gcggcgcatt ataccaacaa gtctggcctg	600
taccatctca ccaacgactg ccccaacagc agcatcgaaa atgaggcggg gacactgatt	660
ttgcacttgc ctgggtgtgt accttgtgtg aagrtgraca atcaatcccg gtgctgggtg	720
caggcctccc cgaccctggc agtgcgaac gcgtctacgc cagtcaccgg gttccgaaa	780
catgtggaca tcatggtggg cgctgcccgc ttctgttcag ctatgtatgt gggggacctg	840
tgccccccccc tttcctcgt tggacagctc ttcacgctca ggcctcggat gcatcaggaa	900
gtccaggagt gtaactgttc catctacaca gggcatatca ctggacacccg aatggca	957

<210> 44  
<211> 319  
<212> PRT  
<213> hepatitis C virus

<220>  
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<222> (144)..(144)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (149)..(149)  
<223> Xaa represents any amino acid

<220>  
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<222> (156)..(157)  
<223> Xaa represents any amino acid

<220>  
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<222> (161)..(161)  
<223> Xaa represents any amino acid

<220>  
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<222> (167)..(167)  
<223> Xaa represents any amino acid

<220>  
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<222> (171)..(172)  
<223> Xaa represents any amino acid

<220>  
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<222> (174)..(174)  
<223> Xaa represents any amino acid

<220>  
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<222> (232)..(233)  
<223> Xaa represents any amino acid

<220>  
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<222> (177)..(177)  
<223> Xaa represents any amino acid

<400> 44

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Ile  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Val Arg His Gln Thr Gly Arg Thr Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro  
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Xaa  
130 135 140

Gly Gly Val Ala Xaa Ala Leu Ala His Gly Val Xaa Xaa Ile Glu Asp  
145 150 155 160

Xaa Val Asn Tyr Ala Thr Xaa Asn Leu Pro Xaa Xaa Ser Xaa Ser Ile  
165 170 175

Xaa Leu Leu Ala Leu Leu Ser Cys Leu Thr Thr Pro Ala Ser Ala Ala  
180 185 190

His Tyr Thr Asn Lys Ser Gly Leu Tyr His Leu Thr Asn Asp Cys Pro  
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Glu Thr Leu Ile Leu His Leu Pro  
210 215 220

Gly Cys Val Pro Cys Val Lys Xaa Xaa Asn Gln Ser Arg Cys Trp Val  
225 230 235 240

Gln Ala Ser Pro Thr Leu Ala Val Pro Asn Ala Ser Thr Pro Val Thr  
245 250 255

Gly Phe Arg Lys His Val Asp Ile Met Val Gly Ala Ala Ala Phe Cys  
260 265 270

Ser Ala Met Tyr Val Gly Asp Leu Cys Gly Gly Leu Phe Leu Val Gly

275

280

285

Gln Leu Phe Thr Leu Arg Pro Arg Met His Gln Val Val Gln Glu Cys  
290 295 300

Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met Ala  
305 310 315

<210> 45  
<211> 413  
<212> DNA  
<213> hepatitis C virus

<220>  
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<223> n represents nucleotide

<220>  
<221> misc\_feature  
<222> (340)..(340)  
<223> n represents nucleotide

<220>  
<221> misc\_feature  
<222> (384)..(384)  
<223> n represents nucleotide

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ggccctcggt tgggtgtgct cgccgacgagg aaaacttctg aacggtcccc gcccagggggt 180  
agacgccaac ctataccgaa ggtgcgtcac caaacgggcc gtacctgggc tcaacccggg 240  
tacccctggc ctctttatgg gaatgagggt tgtggctggg cagggtggct cctgtcccc 300  
cncggctctc gccctaattg gggccctaattt gaccccccgn ggaggtcccc caacctgggt 360  
aaggtcatcg atacccttac ttgngggttc gcccacccca tagagtacat tcc 413

<210> 46  
<211> 137  
<212> PRT  
<213> hepatitis C virus

<220>  
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<222> (101)..(101)  
<223> Xaa represents any amino acid

<220>  
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<222> (114)..(114)  
<223> Xaa represents any amino acid

<220>  
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<222> (128)..(129)  
<223> Xaa represents any amino acid

<400> 46

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Val Arg His Gln Thr Gly Arg Thr Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Xaa Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro

100

105

110

Arg Xaa Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Xaa  
115 120 125

Xaa Phe Ala Asp Leu Ile Glu Tyr Ile  
130 135

<210> 47  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (324)..(324)  
<223> n represents any nucleotide

<220>  
<221> misc\_feature  
<222> (340)..(340)  
<223> n represents any nucleotide

<220>  
<221> misc\_feature  
<222> (455)..(455)  
<223> n represents any nucleotide

<400> 47  
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ggcccacgtt tgggtgtcg cgacgtcgagg aagacttcgg aacggtccca ggccagaggt 180  
aggcgccaac caataccaa ggtgcgccag aaccaaggcc gaacctgggc tcagcctggg 240  
tacccctggc cccttatgg gaacgagggc tgcggctggg cgggtggct cttgtcccc 300  
cgtggcttc gcccggactg ggncccaat gaccccccgn ggaggtcccg caacctgggt 360  
aaggcatcg acaccctcac ttgcggcttc gccgaccta tggagtacat ccctgtcggt 420  
ggcgccccc ttggaggcgt tgccggaa ctggacatg gtgtcaggc catcgaggac 480

gggataaaact atgcaacagg gaatcttcctt ggttgccttt tctctatctt ccwcttggca	540
cttctctcggt gcctcaccac gcctgcctcc gcactaaact atgctaacaa gtctggcgt	600
tatcatctaa ccaatgactg ccccaatagc agcattgtgt atgaggcgaa tggcatgatc	660
ctgcatctcc cgggttgcgt cccctgcgtg aagaccggca acctgaccaa gtgttggctg	720
tcggcctccc cgacattggc ggtgcagaat gcgtcggtgt ccatcagggg tgtccgcgag	780
cacgtggacc tcttggtggg tgctgctgcg ttctgctctg ccatgtacgt gggcgactta	840
tgccgtgggc tctttctcggt tggtcgtttca gaccaggat gtatgagatc	900
gcccaggact gcaactgttc catctatgca ggccacatca ctgggcaccc gatggcg	957

<210> 48  
<211> 319  
<212> PRT  
<213> hepatitis C virus

<220>  
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<222> (108)..(108)  
<223> Xaa represents any amino acid

<220>  
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<222> (114)..(114)  
<223> Xaa represents any amino acid

<220>  
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<222> (152)..(152)  
<223> Xaa represents any amino acid

<220>  
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<222> (178)..(178)  
<223> Xaa represents any amino acid

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Ala Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Val Arg Gln Asn Gln Gly Arg Thr Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asp Trp Xaa Pro Asn Asp Pro  
100 105 110

Arg Xaa Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Glu Tyr Ile Pro Val Val Gly Ala Pro Leu  
130 135 140

Gly Gly Val Ala Ala Glu Leu Xaa His Gly Val Arg Ala Ile Glu Asp  
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Xaa Leu Ala Leu Leu Ser Cys Leu Thr Thr Pro Ala Ser Ala Leu  
180 185 190

Asn Tyr Ala Asn Lys Ser Gly Leu Tyr His Leu Thr Asn Asp Cys Pro  
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Asn Gly Met Ile Leu His Leu Pro  
210 215 220

Gly Cys Val Pro Cys Val Lys Thr Gly Asn Leu Thr Lys Cys Trp Leu

225

230

235

240

Ser Ala Ser Pro Thr Leu Ala Val Gln Asn Ala Ser Val Ser Ile Arg  
245 250 255

Gly Val Arg Glu His Val Asp Leu Leu Val Gly Ala Ala Ala Phe Cys  
260 265 270

Ser Ala Met Tyr Val Gly Asp Leu Cys Gly Gly Leu Phe Leu Val Gly  
275 280 285

Gln Leu Phe Thr Phe Arg Pro Arg Met Tyr Glu Ile Ala Gln Asp Cys  
290 295 300

Asn Cys Ser Ile Tyr Ala Gly His Ile Thr Gly His Arg Met Ala  
305 310 315

<210> 49  
<211> 309  
<212> DNA  
<213> hepatitis C virus

<400> 49  
atgagcacac ttccctaaacc acaaagaaaa accaaaagaa acaccaaccc cggccacagg 60  
acgttaagtt cccaggcgcc ggtcagatcg ttgggtggagt ttacgtgcta ccacgcaggg 120  
gccccccagtt gggtgtgcgt gcagtgcgca agacttccga gcggtcgcaa cctcgcagta 180  
ggcgccaaacc catccccagg gcgcgcccga ccgagggcag gtcctgggct cagcccggt 240  
acccttggcc cctatatggg aatgagggct gcgggtgggc agggtgtggctc ctgtccccgc 300  
gcggctctc 309

<210> 50  
<211> 115  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (17)..(17)  
<223> Xaa represents any amino acid

<400> 50

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Xaa Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Val Leu Pro Arg Arg Gly Pro Gln Leu Gly Val Arg Ala  
35 40 45

Val Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Ser Arg Arg Gln Pro  
50 55 60

Ile Pro Arg Ala Arg Arg Thr Glu Gly Arg Ser Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro  
100 105 110

Arg Arg Arg  
115

<210> 51

<211> 447

<212> DNA

<213> hepatitis C virus

<400> 51  
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gctttgttct catgcttgct tacacccaca gccgggctgg agtaccgtaa tgcctccgga 120  
ctctacatgg taactaacga ctgcagtaac ggtagtatcg tgtatgaggc cggggatatt 180  
atcctccact tacctggctg tgtcccctgc gtacgctctg gcaatacatc aagatgctgg 240

atccctgtga gccccyaccgt cgccgtgaag tcgcccgtcg	300
ccgcccacccgc ctctctccgc	
acgcacgtgg atatgtatggt gggrrgcggcc accctatgct cagctctcta cgtaggagac	360
ctttgtggag cgctatattct tgytggcag gggttctcat ggagacatcg ccagcattgg	420
actgtccagg actgcaactg ttccatc	447

<210> 52  
<211> 149  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (82)..(85)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (108)..(108)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (128)..(128)  
<223> Xaa represents any amino acid

<400> 52

Asp	Gly	Ile	Asn	Phe	Ala	Thr	Gly	Asn	Leu	Pro	Gly	Cys	Ser	Phe	Ser
1				5				10					15		

Ile	Phe	Leu	Leu	Ala	Leu	Phe	Ser	Cys	Leu	Leu	Thr	Pro	Thr	Ala	Gly
				20			25				30				

Leu	Glu	Tyr	Arg	Asn	Ala	Ser	Gly	Leu	Tyr	Met	Val	Thr	Asn	Asp	Cys
				35			40			45					

Ser	Asn	Gly	Ser	Ile	Val	Tyr	Glu	Ala	Gly	Asp	Ile	Ile	Leu	His	Leu
				50			55			60					

Pro Gly Cys Val Pro Cys Val Arg Ser Gly Asn Thr Ser Arg Cys Trp  
65 70 75 80

Ile Pro Val Ser Xaa Thr Val Ala Val Lys Ser Pro Cys Ala Ala Thr  
85 90 95

Ala Ser Leu Arg Thr His Val Asp Met Met Val Xaa Ala Ala Thr Leu  
100 105 110

Cys Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Ala Leu Phe Leu Xaa  
115 120 125

Gly Gln Gly Phe Ser Trp Arg His Arg Gln His Trp Thr Val Gln Asp  
130 135 140

Cys Asn Cys Ser Ile  
145

<210> 53  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 53  
ctcgacagtt actgagaatg acatccgtgt cgaggaatca atataccat gttgtgactt 60  
ggcccccggag gctcgcaagg ccataaagtc gctcaccgag cggctgtaca tcgggggccc 120  
yctaaccaat tcaaaaggac agaactgcgg ctaccgtcgg tgccgcgcca gcggcgtgct 180  
gactaccagc tgccggcaaca ccctgacatg ctacttgaaa gccagagcgg cctgtcgagc 240  
tgcaaagctc cgggactgca ccatgctcgt gtgcgggat gacttgtcg ttatctgtga 300  
gagtgcggga gtcgaggaag acgcggcgaa cctacgagct 340

<210> 54  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (40)..(40)  
<223> Xaa represents any amino acid

<400> 54

Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Glu Ser Ile Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Ala Pro Glu Ala Arg Lys Ala Ile Lys Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Ile Gly Gly Xaa Leu Thr Asn Ser Lys Gly Gln Asn  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Arg Ala Ala Cys Arg Ala  
65 70 75 80

Ala Lys Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Cys Glu Ser Ala Gly Val Glu Glu Asp Ala Ala Asn Leu Arg  
100 105 110

Ala

<210> 55  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 55  
ctcgacagtt actgagaacg acatccgtac cgaggratca atctatcaat gttgtactt 60  
ggccccyagag gcccgcagg ccataaagtc gtcaccgag cggctgtacg tcgggggccc 120  
cctaaccaat tcaaaggggc agaactgcgg ctatcgctgg tgtcgcgcta gcggcgtgct 180  
gaccaccagc tgcggcaaca ccctcacatg ctacttgaaa gccagggcgg cctgtcgagc 240

tgcaaagctc caggactgca cgatgctcggtgcggagac gaccttgcgttatctgtga 300  
gagcgcggga gtcgaggagg acgcggcgaa cctacgagtc 340

<210> 56  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (12)..(12)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (22)..(22)  
<223> Xaa represents any amino acid

<400> 56

Ser Thr Val Thr Glu Asn Asp Ile Arg Thr Glu Xaa Ser Ile Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Ala Xaa Glu Ala Arg Lys Ala Ile Lys Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn Ser Lys Gly Gln Asn  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Arg Ala Ala Cys Arg Ala  
65 70 75 80

Ala Lys Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Cys Glu Ser Ala Gly Val Glu Glu Asp Ala Ala Asn Leu Arg  
100 105 110

Val

<210> 57  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 57  
ctcgacagtt actgagaacg acattcgtgt cgaggaatca atctaccagt gctgtgactt 60  
ggcccccgag gcccgcagg ccataaagtc gtcaccgag cggctgtata tcgggggtcc 120  
cctaaccAAC tcaaaaggc agaactgcgg ctaccgtcgg tgccgcgcca gcggcgtgct 180  
gactaccagc tgccgtaata ccctcacatg ttacttgaaa gccagggcgg cctgtcgagc 240  
tgcgaaagctc caggactgca caatgctcgt gtgcggagac gaccttgcgt ttatctgtga 300  
gagtgcrgga gtcgaggagg atgcggcgaa cctacgagtc 340

<210> 58  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (102)..(102)  
<223> Xaa represents any amino acid

<400> 58

Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Glu Ser Ile Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Ala Pro Glu Ala Arg Lys Ala Ile Lys Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys Gly Gln Asn  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Arg Ala Ala Cys Arg Ala  
65 70 75 80

Ala Lys Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Cys Glu Ser Xaa Gly Val Glu Glu Asp Ala Ala Asn Leu Arg  
100 105 110

Val

<210> 59  
<211> 652  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (524)..(524)  
<223> n represents any nucleotide

<220>  
<221> misc\_feature  
<222> (625)..(625)  
<223> n represents any nucleotide

<400> 59  
cgtacagcct ccaggacccc ccctcccgaa agagccatag tggctcgcc aaccggtag 60  
tacaccggaa ttgccaggac gaccgggtcc tttcttggat caacccgctc aatgcctgga 120  
gatttggcgc tgcccccgca agactgctag ccgagtagtg ttgggtcgcc aaaggcctt 180  
tggtaactgcc tgatagggtg cttgcgatgt ccccgaggagg tctcgttagac cgtgcaccat 240  
gagcacgaat cctaaacctc aaagaaaaac caaaagaaac accaaccgccc gcccacagga 300  
cgtcaagtcc cggggcggtg gccagatcgt tggtgagtc tacgtgctac cgcgccagg 360

ccctagattg ggtgtgcgcg cagcgcggaa gacttcggag cggtcgcaac ctcgtggag 420  
gcgcacacct attcccaagg agcgccgacc cgagggcagg tcctgggcgc agcccggtta 480  
ccccctggccc ctctatggta acgagggctg cgggtggca ggtnggctcc tgtcccctcg 540  
cggtcccggt cctagttggg gtcctactga ccccccggcgt aggtcacgca atttggtaa 600  
ggtcatcgat accctcacgt gttgnnttcgc cgacacctatg gggtacatac cg 652

<210> 60  
<211> 138  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (96)..(96)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (129)..(129)  
<223> Xaa represents any amino acid

<400> 60

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Val Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Ala Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Glu Arg Arg Pro Glu Gly Arg Ser Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Xaa  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro  
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Xaa Phe Ala Asp Leu Met Gly Tyr Ile Pro  
130 135

<210> 61  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 61  
ctcaacggtc actgaagctg atatccgaac agaggagtcc atataccaaat gctgtgaccc 60  
gcaccccgaa gcacgtgtag ccatcaagtc tttgactgaa aggctgtacg tcggggggcc 120  
cttgaccaat tcaaaaagggg agaactgcgg ctatgcaga tgccgtgcca gcggcgtctt 180  
gacaaccagc tgcggcaaca ccctcacctg ctatatcaag gccctagcag cctgttagagc 240  
tgccaagctc caggactgca ccatgctcgt ctgtggcgac gacctggtcg tcatctgcga 300  
gagtgttaggg acccaggagg atgcggcgag cctgcgagcc 340

<210> 62  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 62

Ser Thr Val Thr Glu Ala Asp Ile Arg Thr Glu Glu Ser Ile Tyr Gln  
1 5 10 15

Cys Cys Asp Leu His Pro Glu Ala Arg Val Ala Ile Lys Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn Ser Lys Gly Glu Asn  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Ile Lys Ala Leu Ala Ala Cys Arg Ala  
65 70 75 80

Ala Lys Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Cys Glu Ser Val Gly Thr Gln Glu Asp Ala Ala Ser Leu Arg  
100 105 110

Ala

<210> 63  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (1)..(1)  
<223> n represents any nucleotide

<220>  
<221> misc\_feature  
<222> (311)..(311)  
<223> n represents any nucleotide

<220>  
<221> misc\_feature  
<222> (316)..(316)  
<223> n represents any nucleotide

<220>  
<221> misc\_feature  
<222> (330)..(340)  
<223> n represents any nucleotide

<400> 63  
ntcaacagtc actgagagtg atatccgtac agaggagtcc atctaccaat gctgtgatct 60  
agaccccgag gctcgcaagg ccataaggtc cctcacagag aggcttata tcgggggtcc 120  
cctgacaaac tcaaaaggc agaactgcgg ctaccgcga tgccgtgcaa gcggcgtcct 180  
gacgactagc tgcggcaaca ccctcacctg ttacataaag gccagggcag cctgtcgagc 240  
tgcaagctc caggattgct caatgctcgt ctgtggcgcac gaccttgcg ttatctgcga 300  
gatcgagggg ntccangagg atccgtcga nnnnnnnnnn 340

<210> 64  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (104)..(105)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (110)..(113)  
<223> Xaa represents any amino acid

<400> 64

Ser Thr Val Thr Glu Ser Asp Ile Arg Thr Glu Glu Ser Ile Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Asp Pro Glu Ala Arg Lys Ala Ile Arg Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys Gly Gln Asn  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys

50

55

60

Gly Asn Thr Leu Thr Cys Tyr Ile Lys Ala Arg Ala Ala Cys Arg Ala  
65 70 75 80

Ala Lys Leu Gln Asp Cys Ser Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Cys Glu Ile Glu Gly Xaa Xaa Glu Asp Pro Ser Xaa Xaa Xaa  
100 105 110

Xaa

<210> 65  
<211> 831  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (779)..(779)  
<223> n represents any nucleotide

<400> 65  
cgttagaccgt gcaccatgag cacgaatcct aaacctcaaa gaaaaaccaa acgtaacatc 60  
aaccggccgc cacaggacgt caagttcccg ggcgggtggcc agatcgtcgg tggagttac  
ctgttgcgcgc gcagggggccc tagattgggt gtgcgcgcga ctaggaagac ttccgagcgg 120  
tcgcaacctc gtgggaggcg acagcctatc cccaaaggctc gccgatccga gggcagggtcc 180  
tgggctcagc ccgggtaccc ttggcccttc tatggcaatg agggcatggg ttgggcaggg 240  
tggctcctgt ccccccattgg ctccccggct agttggggcc cttagacccc ccggcgttagg 300  
tcgcgttaatt tgggtaaggt catcgatacc ctcacatgcg gcttcgcgcga cctcatgggg 360  
tacattccgc tcgtcggcgc cccccctaggg ggcgttgcca gggccctggc gcaaggcttc 420  
cgggatctac cacgtcacca acgattgttc caatgggagc attgtgtatg aggcggaaagg 480  
catgatcatg catctccccg ggtgcgtgcc ctgcgttcgg gaaggtaata tctctcggttg 540  
ctgggttaccg ttttccccca cgctcgcagc caggaatgct agcgtccccca ctcaggcaat 600  
660

tcggcgacac gtcgacttgc ttgttggggc ggccacactc tgttctgcta tgtatgtggg 720  
ggacctctgt gggtccgtct tcctcgtcgg ccaactgttc accttcacaw cccgccagna 780  
ctacacagtg caagactgca attgttccat ctacccggc catataacgg g 831

<210> 66  
<211> 158  
<212> PRT  
<213> hepatitis C virus

<400> 66

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Ile Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Met Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro His Gly Ser Arg Pro Ser Trp Gly Pro Ser Asp Pro  
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Leu  
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala Gln Gly Phe Arg Asp Leu  
145 150 155

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<210> 67
<211> 340
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (1)..(7)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (334)..(340)
<223> n represents any nucleotide
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<400> 67
nnnnnnnnngtc actgagagtg atatccgtgt cgaggartca atttaccaat gctgtgacct      60
ggcccccgag gctcgctgtag ccataaagtc gctcactgag cggctatatg tcgggggccc      120
tctcaccaac tcaaaaggac agaactgcgg ctatgcggg tgccgtgcga gcggtgtgct      180
gactactagc tgcggtaaca ccctcacatg ctacctgaaa gccgcccgg cctgtcgagc      240
tgcaaagctc cggaaatgca caatgctcgt gtgtggcgac gacctcgtcg ttatctgtga      300
gagtgcgggg gtccaggagg atgctgcaag cctnnnnnnn      340
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<210> 68
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (1)..(2)
<223> Xaa represents any amino acid
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<220>
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<222> (12)..(12)
<223> Xaa represents any amino acid
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<220>  
<221> MISC\_FEATURE  
<222> (111)..(113)  
<223> Xaa represents any amino acid

<400> 68

Xaa Xaa Val Thr Glu Ser Asp Ile Arg Val Glu Xaa Ser Ile Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Ala Pro Glu Ala Arg Val Ala Ile Lys Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn Ser Lys Gly Gln Asn  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ala Ala Ala Cys Arg Ala  
65 70 75 80

Ala Lys Leu Arg Glu Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Cys Glu Ser Ala Gly Val Gln Glu Asp Ala Ala Ser Xaa Xaa  
100 105 110

Xaa

<210> 69  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (28)..(28)  
<223> n represents any nucleotide

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<220>
<221> misc_feature
<222> (336)..(340)
<223> n represents any nucleotide
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<400> 69
ctcgacagtc acagagagag atataagnac tgaggagtcc atataccagg cttgttcctt      60
acccgagcag gccagaactg ccatacactc attgactgag agactctacg taggagggcc      120
catgatgaac agcaaagggc aatcctgcgg atacaggcat tgccgcgcca gcggagtgct      180
caccaccagt atgggaaata ccatcacgtg ctacatcaag gccctagcgg cttgtaaagc      240
agcaggaata gtggccccc acatgctggt gtgcggcgat gacctagttg tcatctcaga      300
gagtcagggg gtcgaggagg acgaccggaa cctgannnnn      340
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<210> 70
<211> 113
<212> PRT
<213> hepatitis C virus
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<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa represents any amino acid
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<220>
<221> MISC_FEATURE
<222> (112)..(113)
<223> Xaa represents any amino acid
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<400> 70
Ser Thr Val Thr Glu Arg Asp Ile Xaa Thr Glu Glu Ser Ile Tyr Gln
1          5          10          15

Ser Thr Val Thr Glu Arg Asp Ile Xaa Thr Glu Glu Ser Ile Tyr Gln
1          5          10          15
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```
Ala Cys Ser Leu Pro Glu Gln Ala Arg Thr Ala Ile His Ser Leu Thr
20          25          30
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Glu Arg Leu Tyr Val Gly Gly Pro Met Met Asn Ser Lys Gly Gln Ser  
35 40 45

Cys Gly Tyr Arg His Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Met  
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Leu Ala Ala Cys Lys Ala  
65 70 75 80

Ala Gly Ile Val Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ser Glu Ser Gln Gly Val Glu Glu Asp Asp Arg Asn Leu Xaa  
100 105 110

Xaa

<210> 71  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 71  
ctcaaccgtc acagagaggg atataagaac tgaggagtcc atatacctgg cctgctcctt 60  
acccgagcag gcccggactg ccatacattc attaactgag agactttacg tgggaggggcc 120  
catgatgaac agcaaagggc agtcctgcgg atacaggcgt tgccgcgcta gcggagtgct 180  
caccaccagt atggggaaaca ccatcacgtg ttatgtaaa gccctcgcaag cttgtaaagc 240  
tgccggcatt gttgccccca ccatgctggt gtgcggcgat gacctggttg tcatctcaga 300  
gagtcagggg gctgaggagg acgagcgaaa cctgagagtc 340

<210> 72  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 72

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Leu  
1 5 10 15

Ala Cys Ser Leu Pro Glu Gln Ala Arg Thr Ala Ile His Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Met Asn Ser Lys Gly Gln Ser  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Met  
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Val Lys Ala Leu Ala Ala Cys Lys Ala  
65 70 75 80

Ala Gly Ile Val Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ser Glu Ser Gln Gly Ala Glu Glu Asp Glu Arg Asn Leu Arg  
100 105 110

Val

<210> 73  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 73  
ctcaacagtc gcggagagag acatcaggac cgaggagtcc atttaccttg cctgctcctt 60  
acccgagcaa gcccgaactg ccatacattc attgactgag agactttacg taggagggcc 120  
catgatgaac agcaaggac agtcctgcgg ttacagacgt tgccgcgcc a cggagtgct 180  
caccaccagc atgggaaata ccatcacatg ctatgtaaag gcattagctg cctgcaaagc 240  
tgcaggcattc gttgctccca cgatgctggc ttgtggcgac gatctggta tcatacaga 300  
gagtcaggaa accgaggagg atgagcggaa cctgagagtc 340

<210> 74  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 74

Ser Thr Val Ala Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Leu  
1 5 10 15

Ala Cys Ser Leu Pro Glu Gln Ala Arg Thr Ala Ile His Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Met Asn Ser Lys Gly Gln Ser  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Met  
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Val Lys Ala Leu Ala Ala Cys Lys Ala  
65 70 75 80

Ala Gly Ile Val Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Ile Ile Ser Glu Ser Gln Gly Thr Glu Glu Asp Glu Arg Asn Leu Arg  
100 105 110

Val

<210> 75  
<211> 1195  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (3)..(3)  
<223> n represents any nucleotide

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<222> (7)..(7)
<223> n represents any nucleotide
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<220>
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<222> (352)..(352)
<223> n represents any nucleotide
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<222> (361)..(361)
<223> n represents any nucleotide
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<222> (369)..(369)
<223> n represents any nucleotide
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<220>
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<222> (371)..(371)
<223> n represents any nucleotide
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<220>
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<222> (374)..(374)
<223> n represents any nucleotide
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<222> (387)..(387)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (395)..(395)
<223> n represents any nucleotide
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<220>
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<221> misc_feature
<222> (446)..(446)
<223> n represents any nucleotide
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<222> (621)..(621)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (629)..(629)
<223> n represents any nucleotide
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<220>
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<222> (798)..(798)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (887)..(887)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (887)..(888)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (890)..(891)
<223> n represents any nucleotide
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<220>
<221> misc_feature
<222> (978)..(978)
<223> n represents any nucleotide
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<220>
<221> misc_feature
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<222> (1194)..(1194)  
<223> n represents any nucleotide

<220>  
<221> misc\_feature  
<222> (673)..(673)  
<223> n represents any nucleotide

<400> 75  
cgnacancct ccaggcccccc ccctcccgaa agagccatag tggctcgcc aaccggtag 60  
tacaccggaa ttgccggaa gactgggtcc tttcttggat aaacccactc tatgccccgc 120  
catttggcg tgcccccgca agactgctar ccgagtagcg ttgggttgcg aaaggccttg 180  
tggtaactgcc tgatagggtg ctgcgagtg ccccgaggagg tctcgttagac cgtgcacatcat 240  
gagcacaaat cctaaacctc aaagaaaaac caaaagaaac actaaccgcc gcccacagga 300  
cgttaagttc ccggccggtg gccagatcgt tggcggagta tacttggcgc cttgcagggg 360  
ncccaggtnng ngtntatgcg caacgangaa gactnccgaa cagtcggcgc cacgtggag 420  
gcgccagccc atcccggaaat atcggnncac cactggcaag tcctggggac gtccaggata 480  
tccctggccc ctgtatggaa acgagggcct cgggtggca ggggtggctcc tggccggcc 540  
gggctccgc cctgtatggg gccccacggaa ccccccggcat aggtcgccgc acttgggtaa 600  
ggtcatcgat accctcacgt ncggcttnc cgacctcatg gggtacattc ccgtcggtgg 660  
cgccccagta ggnngcgtcg ccagagctct cgcgcattggc gtgagagtcg tggaggacgg 720  
gataaactat gaaacaggaa acctccccgg ttgcttttc tctatctccc tccttgcct 780  
tctgtcctga attaccngc cagttctgc tgtggaaatc aaaaacacca gmaacacata 840  
catggtgact aacgactgtt caaacagyag catcacctgg cagctnnngn ncgcggtgct 900  
tcacgttccct ggatgcgtcc cctgtgaacg agagggcaac agttcccggt gctggattcc 960  
agtcaacggcc racgtakncc tgagccgacc tggccctta accgagggtt tgcgatcgca 1020  
catcgacacc atcgtagcgt ccgcaacatt ttgttctgcc ctctacatag gggatgtatg 1080  
tggcgcata atgatagctg cccaaatggt catcgatcgcc cccggagcatc atcaacttgc 1140  
ccaggactgt aactgttcca tctacccggg ccacataacg gggcctcgta tgtng 1195

<210> 76  
<211> 318  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (38)..(38)  
<223> Xaa represents any amino acid

<220>  
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<222> (41)..(41)  
<223> Xaa represents any amino acid

<220>  
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<223> Xaa represents any amino acid

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<223> Xaa represents any amino acid

<220>  
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<222> (50)..(50)  
<223> Xaa represents any amino acid

<220>  
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<222> (53)..(53)  
<223> Xaa represents any amino acid

<220>  
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<222> (70)..(70)  
<223> Xaa represents any amino acid

<220>  
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<222> (128)..(128)  
<223> Xaa represents any amino acid

<220>  
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<222> (131)..(131)  
<223> Xaa represents any amino acid

<220>  
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<222> (145)..(145)  
<223> Xaa represents any amino acid

<220>  
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<222> (186)..(186)  
<223> Xaa represents any amino acid

<220>  
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<222> (197)..(197)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (209)..(209)  
<223> Xaa represents any amino acid

<220>  
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<222> (216)..(217)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (244)..(244)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (246)..(246)

<223> Xaa represents any amino acid

<220>

<221> MISC\_FEATURE

<222> (318)..(318)

<223> Xaa represents any amino acid

<400> 76

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Xaa Cys Arg Xaa Pro Arg Xaa Xaa Xaa Cys Ala  
35 40 45

Thr Xaa Lys Thr Xaa Glu Gln Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Asp Arg Xaa Thr Thr Gly Lys Ser Trp Gly Arg Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro  
100 105 110

Arg His Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Xaa  
115 120 125

Gly Phe Xaa Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val  
130 135 140

Xaa Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp  
145 150 155 160

Gly Ile Asn Tyr Glu Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile

165

170

175

Ser Leu Leu Ala Leu Leu Ser Ile Thr Xaa Pro Val Ser Ala Val Glu  
180 185 190

Ile Lys Asn Thr Xaa Asn Thr Tyr Met Val Thr Asn Asp Cys Ser Asn  
195 200 205

Xaa Ser Ile Thr Trp Gln Leu Xaa Xaa Ala Val Leu His Val Pro Gly  
210 215 220

Cys Val Pro Cys Glu Arg Glu Gly Asn Ser Ser Arg Cys Trp Ile Pro  
225 230 235 240

Val Thr Pro Xaa Val Xaa Val Ser Arg Pro Gly Ala Leu Thr Glu Gly  
245 250 255

Leu Arg Ser His Ile Asp Thr Ile Val Ala Ser Ala Thr Phe Cys Ser  
260 265 270

Ala Leu Tyr Ile Gly Asp Val Cys Gly Ala Ile Met Ile Ala Ala Gln  
275 280 285

Val Val Ile Val Ser Pro Glu His His His Phe Val Gln Asp Cys Asn  
290 295 300

Cys Ser Ile Tyr Pro Gly His Ile Thr Gly Pro Arg Met Xaa  
305 310 315

<210> 77  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 77  
atccacagtc actgaaaagag acatcagagt tgaagagtcc gtttatctgt cctgttcact 60  
tcccgaggag gccc gagctg ccatacactc actaactgag aggctgtacg tgggagggtcc 120  
catgcagaac agcaaggggc aatcctgcgg atacaggcgc tgccgcgcca gcgggggtgct 180  
caccactagc atgggaaata ctctcacatg ctacttgaag gcccaggcgg cctgcaggc 240

cgcgggcatt gttgcaccca caatgctggt gtgtggcgac gacctggtcg tcatctcaga 300  
gagtcagggg actgagaggg acgagaacaa cctgagacct 340

<210> 78  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 78

Ser Thr Val Thr Glu Arg Asp Ile Arg Val Glu Glu Ser Val Tyr Leu  
1 5 10 15

Ser Cys Ser Leu Pro Glu Glu Ala Arg Ala Ala Ile His Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Gln Asn Ser Lys Gly Gln Ser  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Met  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Gln Ala Ala Cys Arg Ala  
65 70 75 80

Ala Gly Ile Val Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ser Glu Ser Gln Gly Thr Glu Arg Asp Glu Asn Asn Leu Arg  
100 105 110

Pro

<210> 79  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 79  
ctcaacagtc acggagaggg acatcaggaa tgaggagtcc atattcctgg cctgctcggtt 60  
gccccgaggag gccccggactg tcatacattc gctcaactgag agactctaca taggcgggccc 120  
gatgatgaac agcaaaggcc agtcctgtgg atacaggcgt tgtcgcgcac gcgggggtgtt 180  
caccactagc atgggcaata ccatcacgtg ctatgtgaaa gccatggcag cttgcagagc 240  
tgccgggatt gacgccccca caatgttggt atgtggcgcac gacctggtgg tcatactcaga 300  
gagtcagggg accgaggagg acgagcgaaa tctgagagtc 340

<210> 80  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 80

Ser	Thr	Val	Thr	Glu	Arg	Asp	Ile	Arg	Asn	Glu	Glu	Ser	Ile	Phe	Leu
1				5				10				15			

Ala Cys Ser Leu Pro Glu Glu Ala Arg Thr Val Ile His Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Ile Gly Gly Pro Met Met Asn Ser Lys Gly Gln Ser  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met  
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Val Lys Ala Met Ala Ala Cys Arg Ala  
65 70 75 80

Ala Gly Ile Asp Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ser Glu Ser Gln Gly Thr Glu Glu Asp Glu Arg Asn Leu Arg  
100 105 110

Val

<210> 81  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 81  
ctcttgactc tactgtcact gaacaggata tcagggtaga agaagaaata taccaatgtt 60  
gtgaccttga gccggaggct agacgggcaa tcaaatcgct cacggaacgg cttagttgc 120  
gaggtcccat gttcaacagc aaggggctca aatgcggata tcgccgttgc cgtgctagcg 180  
gtgtattgcc cactagctac ggtataatacaaa tcacctgcta catcaaggcc agagcggctg 240  
ctcgagctgc gggcattcaa gacccatcat tccttgtctg cggagatgat ttgggtggtag 300  
tggctgagag ttgcgkcggtt gatgaggagg atagggcagc 340

<210> 82  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (103)..(103)  
<223> Xaa represents any amino acid

<400> 82  
Ser Thr Val Thr Glu Gln Asp Ile Arg Val Glu Glu Glu Ile Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Arg Ala Ile Lys Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Phe Asn Ser Lys Gly Leu Lys  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr Ser Tyr  
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Arg Ala Ala Ala Arg Ala  
65 70 75 80

Ala Gly Leu Gln Asp Pro Ser Phe Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Val Ala Glu Ser Cys Xaa Val Asp Glu Glu Asp Arg Ala Ala Leu  
100 105 110

Arg

<210> 83  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (336)..(336)  
<223> n represents any nucleotide

<400> 83  
ctccactgta accgaaaagg acatcaggcc cgaggaagag gtctatcagt gttgtgaccc 60  
ggagcccgaa gctcgcaagg ttattaccgc cctcacagaa agactctacg tggcgccccc 120  
catgcacaac agcaagggag acctttgtgg gtatcgaga tgccgcgcaa gcggcgtcta 180  
cacgaccagc ttcggaaaca cactgacgtg ctacctaaa gcctcagctg ctattagagc 240  
ggcagggctg agagactgca ccatgctggt ttgcggtgac gacttggtcg tcatcgctga 300  
gagcgatggc gtagaggagg ataaccgagc cctccnagcc 340

<210> 84  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (112)..(112)  
<223> Xaa represents any amino acid

<220>  
<221> misc\_feature  
<223> Xaa represents any amino acid

<400> 84

Ser Thr Val Thr Glu Lys Asp Ile Arg Pro Glu Glu Glu Val Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Thr Ala Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala  
65 70 75 80

Ala Gly Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Asn Arg Ala Leu Xaa  
100 105 110

Ala

<210> 85  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 85  
ctccacggtg actgaaaagg acatcagggt cgaggaagag atcttatcaat gttgtgacct 60

ggarcccgaa gcccccaaag caatatccgc cctcacagag agrctctact tggcgccc	120
catgtataac agcaaagggg agctctgcgg gtatcgagg tgccgcgcga gcggagtgt	180
caccacaagt ttcgggaaca cagtgacctg ctatcttaag gccaccgcag ctaccaggc	240
tgcaggccta aaagactgca ccatgctggt ctgcggtgac gacttggtcg tcatgccga	300
gagcgagggc gtagaggagg attcccaacc cctccgagcc	340

<210> 86  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (21)..(21)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (34)..(34)  
<223> Xaa represents any amino acid

<400> 86

Ser	Thr	Val	Thr	Glu	Lys	Asp	Ile	Arg	Val	Glu	Glu	Glu	Ile	Tyr	Gln
1				5				10					15		

Cys	Cys	Asp	Leu	Xaa	Pro	Glu	Ala	Arg	Lys	Ala	Ile	Ser	Ala	Leu	Thr
				20				25				30			

Glu	Xaa	Leu	Tyr	Leu	Gly	Gly	Pro	Met	Tyr	Asn	Ser	Lys	Gly	Glu	Leu
					35			40			45				

Cys	Gly	Tyr	Arg	Arg	Cys	Arg	Ala	Ser	Gly	Val	Tyr	Thr	Thr	Ser	Phe
					50			55			60				

Gly	Asn	Thr	Val	Thr	Cys	Tyr	Leu	Lys	Ala	Thr	Ala	Ala	Thr	Arg	Ala
					65			70			75		80		

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val

85

90

95

Val Ile Ala Glu Ser Glu Gly Val Glu Glu Asp Ser Gln Pro Leu Arg  
100 105 110

Ala

<210> 87  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 87  
ctccaccgta accgaaaggg acatcagggt cgaggaggag gtctatcagt gttgtgatct 60  
ggagccagag gcccgcagg caatatccgc cctcacggag agactctatg tggccggtcc 120  
catgttaac agcaagggag acctatgtgg ctaccgcagg tgccgcgcaa gcggcgtcta 180  
caccaccagg ttcggaaaca cactgacctg ctacctaag gccacggccg ctaccagagc 240  
ggccggcctg aaggattgca caatgctggt ttgcgggac gacctggtcg tcatcgaga 300  
gagcgatggc gtggacgagg accgcccggc cctccaaagct 340

<210> 88  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 88

Ser Thr Val Thr Glu Arg Asp Ile Arg Val Glu Glu Glu Val Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Ala Ile Ser Ala Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Pro Met Phe Asn Ser Lys Gly Asp Leu  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Thr Ala Ala Thr Arg Ala  
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Asp Glu Asp Arg Arg Ala Leu Gln  
100 105 110

Ala

<210> 89  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (111)..(111)  
<223> n represents any nucleotide

<220>  
<221> misc\_feature  
<222> (126)..(126)  
<223> n represents any nucleotide

<400> 89  
ctcaacagtc acagagcgcg atgtccagac ggagcatgac atctaccagt gctgtaagtt 60  
ggagcccgca gcacggacag ccatcacatc gcttactgac cgattgtact ncgggtggtcc 120  
catgtntaac tctaaaggtc aggcatgtgg ataccgtagg tgcagggcca gtggcgtctt 180  
gaccaccatc ctggccaata ctctgacttg ctacttgaaa gctcaggcgg catgcagagc 240  
tgccggctg aaggactttg acatgttggt ctgcggagac gacttgtcg ttatttcgga 300  
gagtttgggg gtctcgaggagg acactagtgc actgcgagct 340

<210> 90  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (37) .. (37)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (42) .. (42)  
<223> Xaa represents any amino acid

<400> 90

Ser Thr Val Thr Glu Arg Asp Val Gln Thr Glu His Asp Ile Tyr Gln  
1 5 10 15

Cys Cys Lys Leu Glu Pro Ala Ala Arg Thr Ala Ile Thr Ser Leu Thr  
20 25 30

Asp Arg Leu Tyr Xaa Gly Gly Pro Met Xaa Asn Ser Lys Gly Gln Ala  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ile Leu  
50 55 60

Ala Asn Thr Leu Thr Cys Tyr Leu Lys Ala Gln Ala Ala Cys Arg Ala  
65 70 75 80

Ala Gly Leu Lys Asp Phe Asp Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ser Glu Ser Leu Gly Val Ser Glu Asp Thr Ser Ala Leu Arg  
100 105 110

Ala

<210> 91  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 91  
ctcgacagtc accgagcgcg acatccrcac cgagcacgac atctaccaat gctgccaact 60  
tgacccggtg gcacgcaagg ctattacate tctgactgag cggctgtact gcggwgggcc 120  
catgatgaac tcccgtggtc aatcatgtgg ataccgtagg tgccgagcca gtggcgtgct 180  
caccacgagc ttgggcaata ccctaacatg ctattgaaa gcacaaggcag cgtgttagggc 240  
agcaaagctc aaaaactatg acatgttagt ctgcggagac gatctagtcg ttatcgcgga 300  
gagtggagga gtctctgagg atgttgacgc cctgcgagca 340

<210> 92  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (9)..(9)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (38)..(38)  
<223> Xaa represents any amino acid

<400> 92

Ser Thr Val Thr Glu Arg Asp Ile Xaa Thr Glu His Asp Ile Tyr Gln  
1 5 10 15

Cys Cys Gln Leu Asp Pro Val Ala Arg Lys Ala Ile Thr Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Cys Xaa Gly Pro Met Met Asn Ser Arg Gly Gln Ser

35

40

45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Leu  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Gln Ala Ala Cys Arg Ala  
65 70 75 80

Ala Lys Leu Lys Asn Tyr Asp Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Gly Gly Val Ser Glu Asp Val Asp Ala Leu Arg  
100 105 110

Ala

<210> 93  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 93  
ctcctccgtc acggagcgtg acatccgcac tgaacacgac atctatcagt gctgccaatt 60  
agatccggta gcacggaaag ccattacatc tcttactgag cggctgtact gcggcggccc 120  
catgtacaac tctcgaggtc agtcatgtgg gtaccgcagg tgccgggcta gtggtgtctt 180  
caccacaagc ttgggcaaca ccatgacatg ctacctgaag gctcaggcgg cttgttagggc 240  
agcraagctc aaaaactttg acatgttggt ctgcggagac gacctagtcg ttattgctga 300  
gagcggagga gtccctgagg atgccggggc cctgcgagtc 340

<210> 94  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (81)..(81)  
<223> Xaa represents any amino acid

<400> 94

Ser Ser Val Thr Glu Arg Asp Ile Arg Thr Glu His Asp Ile Tyr Gln  
1 5 10 15

Cys Cys Gln Leu Asp Pro Val Ala Arg Lys Ala Ile Thr Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Cys Gly Gly Pro Met Tyr Asn Ser Arg Gly Gln Ser  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Leu  
50 55 60

Gly Asn Thr Met Thr Cys Tyr Leu Lys Ala Gln Ala Ala Cys Arg Ala  
65 70 75 80

Xaa Lys Leu Lys Asn Phe Asp Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Gly Gly Val Pro Glu Asp Ala Gly Ala Leu Arg  
100 105 110

Val

<210> 95  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (36)..(36)  
<223> n represents any nucleotide

<400> 95  
atccacagtc acggggcgcg acatacgcac agaacnagac atttacctgt cctgccagct 60

cgaccaggag	gcccggaaag	ccataaagtc	tctcaactgag	aggctctatg	tcgggggccc	120
tatgtacaac	tcaaagggcc	aactctgtgg	tcaacgccga	tgccgagcaa	gcggagtaact	180
ccccacaagc	atgggtaaca	ccatcacatg	cttcctgaag	gcaaccgccc	cttgcgcagc	240
agccggcttt	acagattatg	acatgttggt	ctgcggagac	gatttggttg	tcgtaactga	300
gagtgctgga	gtcaacgagg	atatcgctaa	cctgcgagcc			340

<210> 96  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (12)..(12)  
<223> Xaa represents any amino acid

<400> 96

Ser	Thr	Val	Thr	Gly	Arg	Asp	Ile	Arg	Thr	Glu	Xaa	Asp	Ile	Tyr	Leu
1				5				10					15		

Ser	Cys	Gln	Leu	Asp	Pro	Glu	Ala	Arg	Lys	Ala	Ile	Lys	Ser	Leu	Thr
				20				25				30			

Glu	Arg	Leu	Tyr	Val	Gly	Gly	Pro	Met	Tyr	Asn	Ser	Lys	Gly	Gln	Leu
				35			40				45				

Cys	Gly	Gln	Arg	Arg	Cys	Arg	Ala	Ser	Gly	Val	Leu	Pro	Thr	Ser	Met
				50			55			60					

Gly	Asn	Thr	Ile	Thr	Cys	Phe	Leu	Lys	Ala	Thr	Ala	Ala	Cys	Arg	Ala
				65		70		75		80					

Ala	Gly	Phe	Thr	Asp	Tyr	Asp	Met	Leu	Val	Cys	Gly	Asp	Asp	Leu	Val
				85			90					95			

Val	Val	Thr	Glu	Ser	Ala	Gly	Val	Asn	Glu	Asp	Ile	Ala	Asn	Leu	Arg
				100			105				110				

Ala

<210> 97  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 97  
ctccactgtc actgaggcagg acatcagggt agaacttcc atcttcagg cctgtgaccc 60  
caaggacgag gctaggaggg tgataacttc actcacggag cggctttact gtgggtggcc 120  
tatgttcaac agcaaggac aacactgcgg ttaccgcgc tgccgtgcta gtggggtgct 180  
accaccaggc ttccggaaaca caatcacctg ttacatcaaa gcaaaggcag ctaccaaagc 240  
tgccggaatt aaaaatccat cattccttgt ctgcggagat gacttggtgc tgattgctga 300  
gagtgcaggg atcgatgagg acaagagcgc cttgagagct 340

<210> 98  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 98

Ser Thr Val Thr Glu Gln Asp Ile Arg Val Glu Leu Ser Ile Phe Gln  
1 5 10 15

Ala Cys Asp Leu Lys Asp Glu Ala Arg Arg Val Ile Thr Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly Gln His  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr Ser Phe  
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Lys Ala Ala Thr Lys Ala  
65 70 75 80

Ala Gly Ile Lys Asn Pro Ser Phe Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Ala Gly Ile Asp Glu Asp Lys Ser Ala Leu Arg  
100 105 110

Ala

<210> 99  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 99  
ctctaccgtc acagagaggg acatacggac agaagaatcc atctatctgt cttgtcaatt 60  
gcctgaagag gcccggaaag ccattaaatc gctgacagag agactatacg tggcgccccc 120  
gatggaaaac agcaagggcc aggcttgcgg atataggcgt tgccgcgcaa gcggggatt 180  
caccacaagc ttgggaaaca ccatgacttg ttacatcaaa gctaaagcgg cttgtaaagc 240  
cgctggcatt gtagacccgg ttagtgcgt gtgcgggtac gacctagtgg tcatctcaga 300  
aagcaagggg gtggaggagg accagcggga cctacgagtc 340

<210> 100  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 100

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Leu  
1 5 10 15

Ser Cys Gln Leu Pro Glu Glu Ala Arg Lys Ala Ile Lys Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Glu Asn Ser Lys Gly Gln Ala

35

40

45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Leu  
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Lys Ala Ala Cys Lys Ala  
65 70 75 80

Ala Gly Ile Val Asp Pro Val Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ser Glu Ser Lys Gly Val Glu Glu Asp Gln Arg Asp Leu Arg  
100 105 110

Val

<210> 101  
<211> 335  
<212> DNA  
<213> hepatitis C virus

<400> 101  
ctccactgtc actgagagag acatacggac agaagaatcc atctayytgg cttgtcaatt 60  
gccccgaagag gccccggaagg ccattaaatc actgacagag agactatacg tgggcggccc 120  
gatggaaaac agcaaaggcc aggcctgcgg atataggcgt tgccgcgcaa gcggggatt 180  
caccacaagc ttggggaaca ccatgacttg ttacatcaag gccaargcag cttgtaaagc 240  
ygctggcatt gttgacccgg ttagtgcgt gtgcggcgac gacctagtgg tcatctcaga 300  
gagcaagggg gtagaggagg accagcgaga cctac 335

<210> 102  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (15)..(16)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (75)..(75)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (80)..(80)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (112)..(113)  
<223> Xaa represents any amino acid

<400> 102

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Xaa Xaa  
1 5 10 15

Ala Cys Gln Leu Pro Glu Glu Ala Arg Lys Ala Ile Lys Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Glu Asn Ser Lys Gly Gln Ala  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Leu  
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Xaa Ala Ala Cys Lys Xaa  
65 70 75 80

Ala Gly Ile Val Asp Pro Val Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ser Glu Ser Lys Gly Val Glu Glu Asp Gln Arg Asp Leu Xaa  
100 105 110

Xaa

<210> 103  
<211> 461  
<212> DNA  
<213> hepatitis C virus

<400> 103  
cgtacagcct ccaggacccc ccctcccgaa agagccatag tggctcgccg aaccggtag 60  
tacaccggaa ttgccggaa gactgggtcc tttcttggat taacccactc tatgcccggaa 120  
gatttggcg tgcccccgca agactgctag ccgagtagcg ttgggttgcg aaaggccttg 180  
tggtaactgcc tgatagggtg cttgcgagtg ccccgaggagg tctcgttagac cgtgcaccat 240  
gagcacgaat cctaaacctc aaagacaaac caaaagaaac accaaccgccc gcccacagga 300  
cgttaagtcc cccggcggtg gccagatcgt tggcggttg tacttgtgc cgccgcagg 360  
ccccagagtg ggtgtgcgcg cgacgagaaa gacctcggag cggtcccagc cgcgtggag 420  
gcgcacacct atccccaaagg ttaggcgcac caccggccgt t 461

<210> 104  
<211> 74  
<212> PRT  
<213> hepatitis C virus

<400> 104

Met Ser Thr Asn Pro Lys Pro Gln Arg Gln Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Val Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Val Arg Arg Thr Thr Gly Arg  
65 70

<210> 105  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (338)..(338)  
<223> n represents any nucleotide

<400> 105  
ctctactgtc acagagaggg atatacgaac agaggaatcc atytatctgg cttgtcaatt 60  
gcccgaaagag gcccggaaagg ccatcaaatac actgacagag agactatacgt tgccggcccc  
gatggaaaac agcaaggggcc aggcctgcgg atacaggcgt tgccgcgcaa gcggggatt 120  
caccacaagc ttggggaaaca ccatgacttg ttacatcaaa gccaaggcgg cttgtaaagc 180  
cgctggcatt gttgacccag ttagtgcgt gtgcggcgcac gacctagtgg tcatactcaga 240  
aagcaagggg gtggaggagg accaacgaga cctacgantc 300  
340

<210> 106  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (14)..(14)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (113)..(113)  
<223> Xaa represents any amino acid

<400> 106

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Xaa Tyr Leu  
1 5 10 15

Ala Cys Gln Leu Pro Glu Glu Ala Arg Lys Ala Ile Lys Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Glu Asn Ser Lys Gly Gln Ala  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Leu  
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Lys Ala Ala Cys Lys Ala  
65 70 75 80

Ala Gly Ile Val Asp Pro Val Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ser Glu Ser Lys Gly Val Glu Glu Asp Gln Arg Asp Leu Arg  
100 105 110

Xaa

<210> 107  
<211> 11  
<212> PRT  
<213> hepatitis C virus

<400> 107

Ala Arg Gln Ser Asp Gly Arg Ser Trp Ala Gln  
1 5 10

<210> 108  
<211> 11  
<212> PRT  
<213> hepatitis C virus

<400> 108

Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln  
1 5 10

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ctccacgtcc ccgggtgcgt cccgtgcgag aaagtggggat acatctcg gtgctggata 720  
ccggtctcac cgaatgtggc cgtgcagcag cccggcgccc tcacgcagggtt cttacggacg 780  
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tgccgtgggg tgatgcttgc agccagatg ttcattgtct cgccacagca ccactggttt 900  
gtgcaagact gcaattgctc catctacccct ggtaccatca ctggacacccg catggcg 957

<210> 212  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 212  
atgagcacaa atcctaaacc tcaaagaaaa accaaaagaa acaccaaccc cgcccccacag 60

gacgttaagt	tcccggtgg	cggtcagatc	gttggcggag	tttacttgt	gccgcgcagg	120	
ggccccaggt	tgggtgtcg	cgcgacaagg	aagacttctg	agcgatcca	gccgcgtgga	180	
cgacgccagc	ccatcccgaa	agatcgccgc	tccaccggca	agtccctgggg	aaagccagga	240	
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agagtcatcg	ataccattac	gtgtggttt	gccgacacta	tgggttacat	ccctgtcg	420	
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tactacgcca	cta	atgatttgc	ctaaacaac	agcatcacct	ggcagctcac	tgacgcagtt	660
ctccatcttc	ctggatgcgt	cccatgtgag	aatgataatg	gcaccttgca	ttgctggata	720	
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cacgtcgaca	tgatcgtaat	ggcagctacg	gcctgtcgg	ccttgtatgt	gggagatgtg	840	
tgcgccggccg	tgatgattct	atcgcaaggct	ttcatggat	caccacaacg	ccacaacttc	900	
acccaagagt	gcaactgttc	catctaccaa	ggtcacatca	ccggccatcg	catggca	957	

<210> 213  
 <211> 957  
 <212> DNA  
 <213> hepatitis C virus

<400> 213	atgagcacaa	atcctaaacc	tcaaagaaaa	acaaaagaa	acactaaccg	ccgcccacag	60
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ggccccagat	tgggtgtcg	cgcgacgagg	aaaacttccg	aacggtccca	gccacgtggg		180
aggcgccagc	ccatccctaa	agatcgccgc	accactggca	agtccctgggg	aaggccagga		240
tacccttggc	ccctgtatgg	gaatgagggc	ctcggtggg	cagggtggct	cctgtcccc		300
cgcgggtctc	gcccttcatg	gggccccacc	gaccccccgc	ataaatcg	cgcaacttgggt		360
aagggtcatcg	atacccta	acgtgcgtttt	gccgacacta	tgggttacat	accctgtcg		420
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gggataaaatt atgcaacggg gaatttgcctt ggttgcctt tctctatctt tctcttggcc 540  
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tacatgccga ccaacgattg ctccaaactct agtacgttt ggcagcttga aggagcagtg 660  
cttcataactc ctggatgcgt cccttgcgtag cgtaccgcca acgtctctcg atgttgggtg 720  
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cacatcgata tcacgtgtat gtctgctacg gtctgttctg ccctttatgt gggggacgtg 840  
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gtccaggaat gcaactgttc catatacccg ggccgcattt cgggacacccg catggct 957

<210> 214  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 214  
atgagcacaa atcctaaacc tcaaagaaaa accaaaagaa acactaaccg ccgcccacag 60  
gacgtcaagt tcccgccgg tgccagatc gttggggag tatacttgg 60  
ggccccccgt tgggtgtcg cgcgacgagg aaaacttccg agcggtccca gccacgtggg 120  
aggcgccagc ccatccccaa agatcgccgc cccactggca agtcctgggg aaaaccagga 180  
tacccttggc ccctgtacgg gaatgagggc ctcggctggg caggggtggct cctgtcccc 240  
cgagggtctc gccccgtcatg gggcccaact gaccccccgc acaggtcacg caacttgggt 300  
aaggtcatcg atacccttac gtgtggctt gccgacctca tgggtacat ccctgtcgcc 360  
ggcgccccag ttgggtgggt cggcagagct ctcgcgcattt gcgtgagagt tctggaaagac 420  
gggataaaact atgcaacagg gaacttgcctt ggttgcctt tttctatctt cttattggcc 480  
ctgctatctt gtatcactgt gccggctctcc ggcttgcagg tcaagaacac cagcagctct 540  
tacatggtaa ccaatgactg ccagaacagt agcatcgat ggcagctcag ggatgtgtt 600  
cttcacgtcc ccgggtgtgt cccttgcgtag gagaaggca acatatcccg ctgttggata 660  
ccgggttcgc ccaatatacg tggagccaa cctggtgcgc ttaccaagggg cctgcggacg 720  
catattgata ccatcattgc atccgctacg ttttgcctt ccctgtacat aggagacctg 780  
tgtggcgccgg tgatgttggc ttctcaagtc ttcatcatct cggcccgacca tcataagttt 840  
900

gtccaggact gcaactgttc catataccca ggccacatca ctggacatcg gatggcg 957

<210> 215  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 215  
atgagcacac ttccctaaacc tcaaagaaaa accaaaagaa acaccatccg tcgcccacag 60  
gacgtcaagt tcccgggtgg cggacagatc gttgggtggag tatacgtgtt gccgcgcagg 120  
ggcccacgat tgggtgtgcg cgcgacgcgt aaaacttctg aacggtcaca gcctcgcgga 180  
cgacgacagc ctatccccaa ggcgcgtcgg agcgaaggcc ggtcctgggc tcagcccg 240  
tacccttggc ccctctatgg taacgagggc tgcgggtggg cagggtggct cctgtcccc 300  
cgccgctccc gtccatcctg gggccaaat gaccccccgc ggaggtcccg caatttgggt 360  
aaagtcatcg ataccctaac gtgcggattc gccgacacta tgggtacat cccgctcg 420  
ggcgctcctg taggaggcgt cgcaagagcc ctcgcgcatt gcgtgaggc ctttgaagac 480  
gggataaatt tcgcaacagg gaacttgc 540  
ctgttctctt gcttaattca tccagcagcc agtctagagt ggcgaaatac gtctggcctc 600  
tacgtcctta ccaacgactg ttccaaatagc agtattgtgt atgaggccga tgatgtcatt 660  
ctgcacacac ccggctgtgt accttgcgtc caggacggca atacatctac gtgctggacc 720  
ccagtgacac ctacagtggc agtcaggtac gtcggagcaa ctactgcttc gatacgcagt 780  
catgtggacc tattagtagg cgccggccacg atgtgctctg cgctctacgt gggtgatatg 840  
tgtgggctg tctttctcgt gggacaagcc ttcacgttca gacctcgacg ccatcaaacg 900  
gtccagacct gtaactgctc gctgtacccca ggccatctt caggacatcg aatggct 957

<210> 216  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 216

atgagcacac	ttcctaaacc	tcaaagacaa	acaaaagaa	acacactcg	tcgcccacag	60
aacgttaagt	tcccggcgg	cggacagatc	gttggtggag	tatatgtgct	gccgcgtagg	120
ggcccacat	tgggtgtcg	cgcagtacgt	aagacttccg	agcggtcgca	gcctcgaaa	180
cagcgtcacc	ttatccccaa	ggctcgctcg	cgcgagggcc	ggtcctggc	tcagcccccgg	240
tacccttggc	ccctctacgg	gaataaggc	tgtgggttgg	caggatggct	cttgcctcccc	300
cgtggttctc	gccctagttg	gggccccaaat	gaccccccggc	gtagatcccc	caactttggt	360
aaggcatcg	ataccctaac	gtgtggattc	gccgacctca	tgggtacat	tccgctcgtc	420
ggcgccccctg	tggggggcgt	cgcaagagcc	ctcgctcatg	gtgtgagggc	acttggggac	480
ggagtgaact	atgcaacagg	gaatcttcct	ggttgcct	tttctatttt	cctcctcgct	540
ctcttcct	gcttgacttg	ccccgcgtct	ggcttagagt	acacgaacac	gtctggccta	600
tatgtgctta	ccaacgactg	ctctaattggg	agcattgtgt	acgaggccga	agatgtgatc	660
ttgcacttac	ccggatgcgt	gccctgcgtc	acaaccggca	accaatcatc	atgctggaca	720
acggctcaa	cgacggtggc	cgttaggacc	cttggcgtga	ccaccgcgtc	gatccgaacc	780
catgtggata	tgctggtagg	cgcacgacaa	ctgtgttcgg	cgctgtacgt	cggggacgct	840
ttcggggctg	tgtttcttgt	gggacaagcg	ttcacctca	gacctcgccg	ccacacgacc	900
gtgcagacgt	gcaactgctc	gatataccca	ggccatgttt	caggacatcg	tatggcg	957

<210> 217  
 <211> 957  
 <212> DNA  
 <213> hepatitis C virus

<400> 217	atgagcacac	ttccaaaacc	ccaaagaaaa	acaaaagaa	acaccatccg	tcgcccacag	60
	gacgtcaagt	tcccggcgg	cggtcagatc	gttggtggag	tatacgtgtt	gccgcgcagg	120
	ggccctctat	tgggtgtcg	cgctacacgt	aagacttccg	agcggtcaca	gcctcgcg	180
	cggcggcagc	ctatccccaa	ggcgcgtcg	ggcgagggac	ggtcctggc	tgagcccccgg	240
	tacccttggc	ccctctacgg	taatgagggc	tgcgggtggg	cgggatggct	cctgtcccc	300
	cgcggttctc	ggccgagctg	gggccccaaat	gaccccccggc	gaagatcccc	caatttgggt	360
	aaggcatcg	atacccttac	atgcgggttc	gccgacctca	tgggtacat	tccgctcgtc	420

ggcgcccccg tggggggcgt tgcaagggcc ctcgcgcatg gcgtgagggc tcttgggac 480  
gggattaact tcgcaacagg gaatttacct ggttgctcct tttctatctt cttgcttgct 540  
ctcttctcat gcttggtctg tcctgcagca gggctcgagt accggaatgt atccggcctc 600  
tacatactca ccaatgactg ttcaaacagc agcatagtgt atgaggccga ccatgtcatc 660  
ttgcacttgc ccgggtgcgt accctgcgtc caaaacaata acaccacgac gtgctggata 720  
ccggtgactc cgacagtggc ggtcagtcac gtcggtgca ccaccgcac gatccgcggg 780  
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tgcgccccag ttttcctcgt aggacaagca ttcacattca gaccccgacg ccaccagaca 900  
gttcagcatt gcaactgctc actgtaccca ggtcatgttt caggtcatcg gatggct 957

<210> 218  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 218  
atgagcacac ttccaaaacc ccaaagaaaa accaaaagaa acaccatccg tcgcccacag 60  
gacgttaagt tccccggcgg cggccagatc gttggtgag tctacttact gccgcgcagg 120  
ggcccaagat tgggtgtcgc cgcaagttcgt aaaacttccg agcggtcaga accccgcaac 180  
cggccgcagc ctatccccaa ggcacgtcgg agcgagggcc ggtcctggc tcagcctggg 240  
tacccttggc ctcttatgg caatgagggc tgtgggtggg caggatggct cttgtcccc 300  
cgccgccttc ggccatctt gggcccaat gaccccgcc gaaggctctg caacctgggt 360  
aaagtcatcg ataccctaac gtgcggattc gccgatctca tgggtacat tccgctcgtc 420  
ggcgctcctg tagggggcgt cgcaagagct ctcgcacatg gtgtgagagc cttgaggac 480  
ggaataaaatt tcgcaacagg gaatttaccc ggttgcttt tctctatctt cttgcttgct 540  
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ttgcacttgc caggttgtgt gccctgcgtt caatcaggca actcctcgca atgctggatt 720  
ccggtggcac caacagtggc ggttaagtac gctggcgca ccactgcac gatccgcagt 780  
catgtggatc tgctggtggg agctgctacg ttgtgtccg cgctgtatgt tggcgatatg 840

tgtggagccg tcttcttggt gggacaggct ttcacccatca gacctcgta gcacaacacg	900
gtgcagaccc gcaattgctc actgtaccct ggtcacatata caggacacag gatggct	957

<210> 219  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 219	
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aa gacgttaagt tcccggcgg cgccagatc gttggggag tatacttgg tccgcgcagg	120
ggcccacgat tgggtgtcg cgcaactcg aagacttcag agcggtcaca accccgcgg	180
cggcgacagc ctattccaa ggcacgcccc agcggaggac ggtcctggc gcagcctgg	240
tacccctggc ccctctatgg taacgaggc tgccggggc cagggtggc tctgtctc	300
cgcggctccc gaccgagttg gggcccaac gaccccccgc gaaggtcccc caatttgg	360
aaggtcatcg acactctcac atgcgggttc gccgatctca tgggtatat tccgctcg	420
tc ggcgtccgg taggaggcgt cgcgaggcgc ctgcacacag gggtaaggc tctcgagg	480
ggaataaatt ttgcaacagg gAACCTCCC ggttgcctt tttctatctt cttgcctgc	540
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tacatgctca ccaatgactg ctcaaacagc agcatagttt atgaggcgg aatgtgtatc	660
ctgcacatgc ctgggtgcgt tccctgcgtc cagaacggca acacatcgga gtgctggacc	720
ccggcgacac caacggggc agtcagatac gctggtgcaa cgacggcttc cgtacgcgg	780
cacgtggatt tgctagtcgg cagtgcact ctgtgcctcg cgctctatgt cggtgac	840
ttgcggggccg tcttccttgc gggcaggcc tttacattca ggcctcgta tcatacgact	900
gtccagaccc gcaactgctc gttgtaccca ggccatata caggacatcg catggca	957

<210> 220  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 220  
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gacgtcaagt tcccgggcgg tggcagatc gttgggtggag tatacgtatt gccgcgcagg 120  
ggcccacgat tgggtgtgcg cgcaagtgcgt aaatcttccg agcggtcgca acctcgccga 180  
cggcggcagc ctatccccaa ggcacgcccga agcgagggcc ggtcctggc ccagcctggg 240  
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cgtggctccc gccttagttg gggcccaa at gaccccccgc gtagatcacg caacttgggt 360  
aaggtcatcg ataccctcac gtgtggattc gcccgtctca tgggtacat tccgctcggt 420  
ggtgcccccg tagggggcgt cgcaagggcc ctagcacatg gtgtgagggc tcttgggac 480  
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tacatactta ccaacgactg ctctaacagc agcatcgtgt atgaggctga taatgtcatc 660  
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ccagtaacac cgacagtggc tgtcaaacat cctggcgcag tcaccgcata aatccgcagg 780  
catgtggatt ttagtgggtgg tgcagccacg ctgtgttcag cactctatgt tggagatttg 840  
tgccgggctg tttcccttgtt gggccaagcg ttcacttca gagctcgccca acattataacc 900  
gtccagttgt gcaattgctc actataccca ggacacatttta caggacatca tatggct 957

<210> 221  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 221  
atgagcacga atcctaaacc tcaaagaaaa accaaacgtt acaccaacccg ccgccccatg 60  
gacgtaaagt tcccgggtgg tggccagatc gttggggag tttacttggt gccgcgcagg 120  
ggccccaggt tgggtgtgcg cgcaactcga aagacttcgg agcggtcgca acctcgccgt 180  
aggcgtcaac ctatccccaa ggccgcgcag ccagagggca gatcctggc gcagccggg 240  
tacccttggc ccctctatgg caatgagggc tgccgggtggc cagggtggct cctgtctcc 300  
cgccgctctc ggccatctt gggcccaa at gatccccggc ggagatcgccg caatctgggt 360  
aaggtcatcg ataccctgac gtgcggcttc gcccgtctca tgggatacat cccgatcgtg 420

ggcgcccccg	tgggggcgt	cggcaggcgt	ctggcgcatg	gcgtcagggc	tgtggaggac	480
gggattaact	atgcaacagg	gaatcttccc	ggttgcctt	tctctatctt	cctttggca	540
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tatcacatca	ccaatgattg	tccgaattcc	agtatagtct	atgaagctga	ccatcacatc	660
ctacacttgc	cggggtgcgt	accctgtgtg	atgactggga	acacatcg	ttgctggacg	720
ccggtgacgc	ctacagtggc	tgtgcacac	ccggcgctc	cgctttagtc	gttccggcga	780
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tgccgaggtg	cttcctgat	ggggcagatg	atcactttc	ggccgcgtcg	ccactggacc	900
acgcaggagt	gcaattgttc	catctacact	ggccatata	ccggccacag	gatggcg	957

<210> 222  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 222						
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ggcccccggt	tgggtgtcg	cgcagctcg	aagacttcgg	agcggtcaca	acctcggtgc	180
aggcgtcagc	ctatccccaa	ggcgcccg	tccgagggca	ggtcctggc	tca	240
tacccttggc	cccttacgg	caatgagggc	tgtgggtggg	cagggtggct	cctgtcccc	300
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tgtggaggcg tcttcctagt gggccagctg ttcgacttcc gaccgcgccc gcactggacc 900  
acccaggatt gcaactgctc catctatcct ggtcacgtct cgggccacag gatggcc 957

<210> 223  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 223  
atgagcacga atcctaaacc tcaaagaaaa accaaacgta acaccaaccc cgccccatg 60  
gacgttaagt tcccgccgg tggccagatc gttggccggag tttacttggt gccgcgcagg 120  
ggccccaggt tgggtgtgcg cgcgacttagg aagacttcgg agcggtcgca acctcggtgg 180  
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aaggcatcg ataccctaac ctgcggctt gccgaccta tggatacat cccgctcgta 420  
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gccctcaactc ccaccgtggc ggcgccttac atcggcgctc cgcttgaatc cctccggagt 780  
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tgccgtggcg tattttgggt tggtcagatg ttctcttcc agccgcggcg ccactggact 900  
acgcaggact gcaattgttc catctacgctg gggcacgtta cgggccacag gatggca 957

<210> 224  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 224  
atgagcacga atcctaaacc tcaaagaaaa accaaacgta acaccaaccg ccgcccattg 60  
gacgttaagt tcccggtgg cgccagatc gttggcggag tttacttggt gccgcgcagg 120  
ggccctagat tgggtgtcg cgcgactagg aagacttcgg agcggtcgca acctcggtgg 180  
aggcgccagc ctatccccaa ggcgcgccaa ctcgagggtt ggtcctggc tcagcctggg 240  
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cgtggctctc ggcgtcttg gggcccaat gatccccggc ggagggtcccg caacttgggt 360  
aaggtcatcg ataccctaac ttgcggcttc gccgacctca tgggatacat cccggtcgta 420  
ggcgcccccg tgggtggcgt cgccagagcc ctggcgcatg gcgtcaggct tctggaggac 480  
ggggtcaatt atgcaacagg gaatcttccc gttgcttt tctctatctt cctcttggca 540  
ctgctctcgt gcctgactgt tcccgcttcg gcctacaact atcgaacag ctcgggtgtc 600  
taccatgtca ccaacgattt cccgaactcg agcatagtct atgaaaccga ttaccacatc 660  
ttacacctcc cgggatgcgt tccttgcgtg agggaaaggga acaagtctac atgctgggtg 720  
tctctcaccc ccaccgtggc tgcgcaacat ctgaatgctc cgcttgagtc tttgagacgt 780  
cacgtggatc tggatgggtgg cggcgccact ctctgctccg ccctctacat cggagacgtg 840  
tgtgggggtg tggatgggtgg cggtcaactg ttcacccccc aacctcgccg ccactggacc 900  
accgaagact gcaattgttc catctacaca ggacatatac caggacacag aatggct 957

<210> 225  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 225  
atgagcacga atcctaaact tcaaagaaaa accaaacgta acaccaaccg ccgccccatg 60  
gacgttaagt tcccggtgg tggccagatc gttggcggag tttacttgtt gccgcgcagg 120  
ggccctaggt tgggtgtgcg cgcgactcgg aagacttcgg agcggtcgca acctcgtggg 180  
aggcgccaac ctatccccaa ggcgccgca tccgagggca gatcctggc gcagccccgg 240  
tatccttggc cccttacgg caatgagggc tgtgggtgg cagggtggt cctgtccct 300  
cgcggtctc ggccgtctt gggccataat gatccccggc ggagggtcccg caacctgggt 360

aaggtcatcg ataccctaac atgcggcttc gccgacacta tggatacat cccgcttga	420
ggcgcccccg tgggtggcgt cgccagagcc ctggcacacg gtgttagggc tgtgaaagac	480
gggatcaact acgcaacagg gaatctcccc ggttgcctt tttctatctt cctcttggca	540
cttctctcggt gcctcaactgt tcccgctcg ggcgttaact atcgcaatgc ttcggcggt	600
tatcacatca ccaacgactg cccgaatgcg agcatagtgt acgagaccga caatcacatc	660
ttacacctcc cagggtgcgt accctgtgt aagaccggga accagtcgcg gtgtgggt	720
gccctcaactc ccacagtggc gtcgccttac gtcggtgctc cgctcgagcc cttgcggcgc	780
catgtggacc tgatggtagg tgctgccacc gtgtgcctcg ccctctacgt cggcgacctg	840
tgcggtggct tattcttgtt aggccaaatg ttcaccttcc aaccgcgacg ccactggacg	900
acccaggact gtaattgttc catctacgca gggcatatta cgggcccattcg gatggct	957

<210> 226  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 226	
atgagcacga atcctaaacc tcaaagaaaa accaaaagaa acaccaaccc tcgcccacag	60
gacgtcaagt tcccggcgg tggtcagatc gttggcggag tttacttgtt gccgcgcagg	120
ggcccttagga tgggtgtcg cgcgactcgg aagacttcgg aacggtcga accccgtgga	180
cggcgtcagc ctattccaa ggcgcgccag cccacgggcc ggtcctgggg tcaacccggg	240
tacccttggc cccttacgc caatgagggc ctcgggtggg cagggtggct gctctccct	300
cgaggctctc ggcctaattg gggcccaat gaccccccgc gaaaatcgcg taatttgggt	360
aaggtcatcg ataccctaac gtgcggattc gccgatctca tgggtatat cccgctcgta	420
ggcgccccca ttggggcgt cgcaagggtc ctcgcacacg gtgtgagggt cttgaggac	480
ggggtaaact atgcaacagg gaatttaccc ggttgcctt tctctatctt tattcttgct	540
cttctctcggt gtctgaccgt tccggcctct gcagttccct accgaaatgc ctctgggatt	600
tatcatgtta ccaatgattt cccaaactct tccatagtct atgaggcaga taacctgatc	660
ctacacgcac ctgggtgcgt gccttgcgt atgacaggtt atgtgagtag atgctgggtc	720
caaattaccc ctacactgtc agccccgagc ctcggagcag tcacggctcc tcttcggaga	780

gccgttact acctagcgaa	840
aggggctgcc ctctgctccg	
cgttataacgt aggagacgca	
tgtggggcac tattcttgtt	900
aggccaaatg ttcacctata	
ggcctcgcca gcacgctacg	
gtgcagaact gcaactgttc	957
catttacagt ggccatgtta	
ccggccacccg gatggca	

<210> 227  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<400> 227	
atgagcacac ttccaaaacc	60
ccaaagaaaa accaaaagaa	
acaccaaccc tcgccccacg	
gacgtcaagt tcccggtgg	120
cggtcagatc gttggcggag	
tttacttgtt gccgcgcagg	
ggcccccggt tgggtgtgcg	180
cgcgacgaga aagacttccg	
agcgatccca gcccagaggc	
aggcgccaac ctataccaaa	240
ggcgcccaag ccccagggca	
ggcactggc tcagcccgga	
tacccttggc ctcttatgg	300
aaacgagggc tgtgggtggg	
caggttggct cctgtcccc	
cgccgctccc ggccacattt	360
ggggcccaat gaccccccgc	
gtcgatcccg gaatttgggt	
aaggtcatcg ataccctaac	420
gtgtgggttc gccgatctca	
tgggtacat tcccgctgt	
ggcgccctt tggcgccgt	480
cgcgcgtcg ctcgcacatg	
gcgtgagggc aatcgaggac	
gggatcaatt atgcaacagg	540
aatctcccc gttgctt tctctatctt	
cctttggca	
ctactctcgt gcctcacaac	600
gccagcttcg gctttacct	
acggcaactc cagtggcta	
taccatctca caaatgattt	660
ccccactcc agcatcgtgc	
tggaggcggta tgctatgatc	
ttgcatttgc ctggatgctt	720
gccttgtgtg agggtcgatg	
atcggtccac ctgttggcat	
gctgtgaccc ccaccctggc	780
cataccaaat gttccacgc	
ccgcaacggg attccgcagg	
catgtggatc ttcttgcggg	840
cggcgcagtg gtttgcgtat	
ccctgtacat cggggacctg	
tgtggctctc tcttttggc	900
gggacaacta ttcacccttc	
agccccgccc tcattggact	
gtgcaagact gcaactgctc	957
catctataca ggccacgtca	
ccggccacacag gatggct	

<210> 228  
<211> 957  
<212> DNA  
<213> hepatitis C virus

<220>

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<221> misc_feature
<222> (383)..(383)
<223> n represents any nucleotide
```

```
<220>
<221> misc_feature
<222> (387)..(387)
<223> n represents any nucleotide
```

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<220>
<221> misc_feature
<222> (924)..(924)
<223> n represents any nucleotide
```

```
<220>
<221> misc_feature
<222> (928)..(928)
<223> n represents any nucleotide
```

<400> 228	
atgagcacac ttccaaaacc ccaaagaaaa accaaaagaa atactaaccg tcgcctatg	60
gacgtcaagt tcccgccgg cgccagatc gttggggag tttacttggt gccgcgcagg	120
ggccctcggt tgggtgtgcg cgcgacgaga aagacctccg aacggtccc gcctagaggc	180
aggcgccagc ccataccaaa ggtacgccag ccgacaggcc gtagctgggg tcaacccggc	240
tacccttggc cccttatgg caacgagggc tgcggatggg cggatggct cctgtcccc	300
cgcgggtctc gtcctaattg gggcccaac gacccggc gaaggtccc caacttgggt	360
aaggtcatcg atacccttac atncggnta gccgaccta tgggtacat ccctgtccta	420
ggagggccgc ttggcggcgt tgcggctgcc ctggcgcatg gcgttagggc aatcgaggac	480
ggggtaatt acgcaacagg gaatttcct ggttgcctt tttctatctt cctcttagca	540
ctgttatcgt gcctcaactac accagccta gcaatcaag tcaagaacgc ctctggatc	600
taccatctt ccaatgactg ctgcacaac agcatcggtt ttgaggcgg aaccatgata	660
ctgcatactt caggttgtgt cccatgtatc aaggcgggaa atgagtcacg atgttggctc	720
cctgtctccc ccaccttagc cgcccccaac tcatcagtgc caatccacgg gtttcggcga	780

cacgttagacc	tcctcggtgg	ggcagcggca	ttttgttcgg	ccatgtacat	cgagacctc	840
tgtggtagca	taatcttggt	agggcagctt	tttactttca	ggcctaagta	ccatcaggtt	900
accaggatt	gtaactgctc	tatnaacnct	ggccacgtca	cgggacacag	gatggca	957

<210> 229  
<211> 319  
<212> PRT  
<213> hepatitis C virus

<400> 229

Met	Ser	Thr	Asn	Pro	Lys	Pro	Gln	Lys	Lys	Asn	Lys	Arg	Asn	Thr	Asn
1				5				10				15			

Arg	Arg	Pro	Gln	Asp	Val	Lys	Phe	Pro	Gly	Gly	Gly	Gln	Ile	Val	Gly
				20			25					30			

Gly	Val	Tyr	Leu	Leu	Pro	Arg	Arg	Gly	Pro	Arg	Leu	Gly	Val	Arg	Ala
					35		40				45				

Thr	Arg	Lys	Thr	Ser	Glu	Arg	Ser	Gln	Pro	Arg	Gly	Arg	Arg	Gln	Pro
					50		55			60					

Ile	Pro	Lys	Ala	Arg	Arg	Pro	Glu	Gly	Arg	Thr	Trp	Ala	Gln	Pro	Gly
					65		70		75		80				

Tyr	Pro	Trp	Pro	Leu	Tyr	Gly	Asn	Glu	Gly	Cys	Gly	Trp	Ala	Gly	Trp
					85			90				95			

Leu	Leu	Ser	Pro	Arg	Gly	Ser	Arg	Pro	Ser	Trp	Gly	Pro	Thr	Asp	Pro
					100		105			110					

Arg	Arg	Arg	Ser	Arg	Asn	Leu	Gly	Lys	Val	Ile	Asp	Thr	Leu	Thr	Cys
					115		120			125					

Gly	Phe	Ala	Asp	Leu	Met	Gly	Tyr	Ile	Pro	Leu	Val	Gly	Ala	Pro	Leu
					130		135			140					

Gly	Gly	Ala	Ala	Arg	Ala	Leu	Ala	His	Gly	Val	Arg	Val	Leu	Glu	Asp
					145		150			155			160		

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala Tyr  
180 185 190

Gln Val Arg Asn Ser Thr Gly Leu Tyr His Val Thr Asn Asp Cys Pro  
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Ala Asp Ala Ile Leu His Thr Pro  
210 215 220

Gly Cys Val Pro Cys Val Arg Glu Gly Asn Ala Ser Arg Cys Trp Val  
225 230 235 240

Ala Met Thr Pro Thr Val Ala Thr Arg Asp Gly Lys Leu Pro Ala Thr  
245 250 255

Gln Leu Arg Arg His Ile Asp Leu Leu Val Gly Ser Ala Thr Leu Cys  
260 265 270

Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Ser Val Phe Leu Val Gly  
275 280 285

Gln Leu Phe Thr Phe Ser Pro Arg Arg His Trp Thr Thr Gln Gly Cys  
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Ala  
305 310 315

<210> 230  
<211> 319  
<212> PRT  
<213> hepatitis C virus

<400> 230

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly

20

25

30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Arg Pro Glu Gly Arg Thr Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Met Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro  
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Leu  
130 135 140

Gly Gly Ala Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp  
145 150 155 160

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Ile Pro Ala Ser Ala Tyr  
180 185 190

Glu Val Arg Asn Val Ser Gly Ile Tyr His Val Thr Asn Asp Cys Ser  
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Ala Asp Met Ile Met His Thr Pro  
210 215 220

Gly Cys Val Pro Cys Val Arg Glu Ser Asn Phe Ser Arg Cys Trp Val  
225 230 235 240

Ala Leu Thr Pro Thr Leu Ala Ala Arg Asn Ser Ser Ile Pro Thr Thr  
245 250 255

Thr Ile Arg Arg His Val Asp Leu Leu Val Gly Ala Ala Ala Leu Cys  
260 265 270

Ser Ala Met Tyr Val Gly Asp Leu Cys Gly Ser Val Phe Leu Val Ser  
275 280 285

Gln Leu Phe Thr Phe Ser Pro Arg Arg Tyr Glu Thr Val Gln Asp Cys  
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Val Ser Gly His Arg Met Ala  
305 310 315

<210> 231  
<211> 319  
<212> PRT  
<213> hepatitis C virus

<400> 231

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Asp Arg Arg Ser Thr Gly Lys Ser Trp Gly Lys Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro  
100 105 110

Arg His Arg Ser Arg Asn Val Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Leu  
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp  
145 150 155 160

Gly Val Asn Phe Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Ile Thr Thr Pro Val Ser Ala Ala  
180 185 190

Glu Val Lys Asn Ile Ser Thr Gly Tyr Met Val Thr Asn Asp Cys Thr  
195 200 205

Asn Asp Ser Ile Thr Trp Gln Leu Gln Ala Ala Val Leu His Val Pro  
210 215 220

Gly Cys Val Pro Cys Glu Lys Val Gly Asn Thr Ser Arg Cys Trp Ile  
225 230 235 240

Pro Val Ser Pro Asn Val Ala Val Gln Gln Pro Gly Ala Leu Thr Gln  
245 250 255

Gly Leu Arg Thr His Ile Asp Met Val Val Met Ser Ala Thr Leu Cys  
260 265 270

Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Val Met Leu Ala Ala  
275 280 285

Gln Met Phe Ile Val Ser Pro Gln His His Trp Phe Val Gln Asp Cys  
290 295 300

Asn Cys Ser Ile Tyr Pro Gly Thr Ile Thr Gly His Arg Met Ala  
305 310 315

<210> 232  
<211> 319  
<212> PRT  
<213> hepatitis C virus

<400> 232

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Asp Arg Arg Ser Thr Gly Lys Ser Trp Gly Lys Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Thr Trp Gly Pro Thr Asp Pro  
100 105 110

Arg His Arg Ser Arg Asn Leu Gly Arg Val Ile Asp Thr Ile Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val  
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp  
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Val Thr Val Pro Val Ser Ala Val  
180 185 190

Glu Val Arg Asn Ile Ser Ser Tyr Tyr Ala Thr Asn Asp Cys Ser  
195 200 205

Asn Asn Ser Ile Thr Trp Gln Leu Thr Asp Ala Val Leu His Leu Pro  
210 215 220

Gly Cys Val Pro Cys Glu Asn Asp Asn Gly Thr Leu His Cys Trp Ile  
225 230 235 240

Gln Val Thr Pro Asn Val Ala Val Lys His Arg Gly Ala Leu Thr Arg  
245 250 255

Ser Leu Arg Thr His Val Asp Met Ile Val Met Ala Ala Thr Ala Cys  
260 265 270

Ser Ala Leu Tyr Val Gly Asp Val Cys Gly Ala Val Met Ile Leu Ser  
275 280 285

Gln Ala Phe Met Val Ser Pro Gln Arg His Asn Phe Thr Gln Glu Cys  
290 295 300

Asn Cys Ser Ile Tyr Gln Gly His Ile Thr Gly His Arg Met Ala  
305 310 315

<210> 233  
<211> 319  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (319)..(319)  
<223> Xaa represents any amino acid

<400> 233

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Asp Arg Arg Thr Thr Gly Lys Ser Trp Gly Arg Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro  
100 105 110

Arg His Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val  
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp  
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Ser Ala Leu Leu Ser Cys Ile Ser Val Pro Val Ser Ala Val  
180 185 190

Glu Val Lys Asn Thr Ser Thr Ser Tyr Met Val Thr Asn Asp Cys Ser  
195 200 205

Asn Ser Ser Ile Val Trp Gln Leu Glu Gly Ala Val Leu His Thr Pro  
210 215 220

Gly Cys Val Pro Cys Glu Gln Ile Gly Asn Ala Ser Arg Cys Trp Val  
225 230 235 240

Pro Val Ser Pro Asn Val Ala Ile Arg Gln Pro Gly Thr Leu Thr Lys  
245 250 255

Gly Leu Arg Ala His Val Asp Val Ile Val Met Ser Ala Thr Leu Cys  
260 265 270

Ser Ala Leu Tyr Val Gly Asp Val Cys Gly Ala Leu Met Ile Ala Ala  
275 280 285

Gln Ala Val Ile Ala Ser Pro Gln Arg His Thr Phe Val Gln Glu Cys  
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Xaa  
305 310 315

<210> 234  
<211> 319  
<212> PRT  
<213> hepatitis C virus

<400> 234

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Asp Arg Arg Pro Thr Gly Lys Ser Trp Gly Lys Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro  
100 105 110

Arg His Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val

130

135

140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp  
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Ile Thr Val Pro Val Ser Gly Leu  
180 185 190

Gln Val Lys Asn Thr Ser Ser Ser Tyr Met Val Thr Asn Asp Cys Gln  
195 200 205

Asn Ser Ser Ile Val Trp Gln Leu Arg Asp Ala Val Leu His Val Pro  
210 215 220

Gly Cys Val Pro Cys Glu Glu Lys Gly Asn Ile Ser Arg Cys Trp Ile  
225 230 235 240

Pro Val Ser Pro Asn Ile Ala Val Ser Gln Pro Gly Ala Leu Thr Lys  
245 250 255

Gly Leu Arg Thr His Ile Asp Thr Ile Ile Ala Ser Ala Thr Phe Cys  
260 265 270

Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Ala Val Met Leu Ala Ser  
275 280 285

Gln Val Phe Ile Ile Ser Pro Gln His His Lys Phe Val Gln Asp Cys  
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Ala  
305 310 315

<210> 235  
<211> 419  
<212> PRT  
<213> hepatitis C virus

<400> 235

Met Ser Thr Leu Pro Lys Pro Gln Arg Gln Thr Lys Arg Asn Thr Leu  
1 5 10 15

Arg Arg Pro Gln Asn Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Val Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Val Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Lys Gln Arg His Leu  
50 55 60

Ile Pro Lys Ala Arg Ser Arg Glu Gly Arg Ser Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Lys Gly Cys Gly Leu Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro  
100 105 110

Arg Arg Arg Ser Arg Asn Phe Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Val  
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Leu Gly Asp  
145 150 155 160

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Leu Ala Leu Phe Ser Cys Leu Thr Cys Pro Ala Ser Gly Leu  
180 185 190

Glu Tyr Thr Asn Thr Ser Gly Leu Tyr Val Leu Thr Asn Asp Cys Ser  
195 200 205

Asn Gly Ser Ile Val Tyr Glu Ala Glu Asp Val Ile Leu His Leu Pro  
210 215 220

Gly Cys Val Pro Cys Val Thr Thr Gly Asn Gln Ser Ser Cys Trp Thr  
225 230 235 240

Thr Val Ser Thr Thr Val Ala Val Arg Thr Leu Gly Val Thr Thr Ala  
245 250 255

Ser Ile Arg Thr His Val Asp Met Leu Val Gly Ala Arg Gln Leu Cys  
260 265 270

Ser Ala Leu Tyr Val Gly Asp Ala Phe Gly Ala Val Phe Leu Val Gly  
275 280 285

Gln Ala Phe Thr Phe Arg Pro Arg Arg His Thr Thr Val Gln Thr Cys  
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Val Ser Gly His Arg Met Ala Trp  
305 310 315 320

Asp Met Met Met Asn Trp Ser Pro Thr Ile Gly Leu Val Ile Ser His  
325 330 335

Leu Met Arg Leu Pro Gln Thr Leu Phe Asp Leu Val Ser Gly Thr His  
340 345 350

Trp Gly Val Met Ala Gly Leu Ala Tyr Phe Ser Met Gln Gly Asn Trp  
355 360 365

Ala Lys Val Val Ile Val Leu Ile Met Phe Ser Gly Val Asp Ala Asn  
370 375 380

Thr Tyr Thr Thr Ala Gly Ser Met Ala Gln Ser Ile Tyr Arg Leu Thr  
385 390 395 400

Asp Ile Phe Ser Thr Gly Pro Ser Gln Lys Leu Gln Leu Val Asn Ser  
405 410 415

Asn Gly Ser

<210> 236  
<211> 383  
<212> PRT  
<213> hepatitis C virus

<400> 236

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Gln Leu Glu Gly Arg Ser Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro  
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val  
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Leu Leu Glu Asp  
145 150 155 160

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala Tyr  
180 185 190

Asn Tyr Arg Asn Ser Ser Gly Val Tyr His Val Thr Asn Asp Cys Pro  
195 200 205

Asn Ser Ser Ile Val Tyr Glu Thr Asp Tyr His Ile Leu His Leu Pro  
210 215 220

Gly Cys Val Pro Cys Val Arg Glu Gly Asn Lys Ser Thr Cys Trp Val  
225 230 235 240

Ser Leu Thr Pro Thr Val Ala Ala Gln His Leu Asn Ala Pro Leu Glu  
245 250 255

Ser Leu Arg Arg His Val Asp Leu Met Val Gly Gly Ala Thr Leu Cys  
260 265 270

Ser Ala Leu Tyr Ile Gly Asp Val Cys Gly Gly Val Phe Leu Val Gly  
275 280 285

Gln Leu Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln Asp Cys  
290 295 300

Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met Ala Trp  
305 310 315 320

Asp Met Met Met Asn Trp Ser Pro Thr Ala Thr Leu Val Leu Ala Gln  
325 330 335

Leu Met Arg Ile Pro Gly Ala Met Val Asp Leu Leu Ala Gly Gly His  
340 345 350

Trp Gly Ile Leu Val Gly Ile Ala Tyr Phe Ser Met Gln Ala Asn Trp  
355 360 365

Ala Lys Val Ile Leu Val Leu Phe Leu Phe Ala Gly Val Asp Ala  
370 375 380

<210> 237  
<211> 319  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (102)..(102)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (105)..(105)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (114)..(114)  
<223> Xaa represents any amino acid

<400> 237

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Arg Thr Glu Gly Arg Ser Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Xaa Ser Arg Xaa Ser Trp Gly Pro Asn Asp Pro  
100 105 110

Arg Xaa Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Val  
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val Glu Asp

145

150

155

160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Thr Ser Ala Val  
180 185 190

Asn Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp Cys Pro  
195 200 205

Asn Ala Ser Ile Val Tyr Glu Thr Glu Asn His Ile Leu His Leu Pro  
210 215 220

Gly Cys Val Pro Cys Val Arg Thr Gly Asn Gln Ser Arg Cys Trp Val  
225 230 235 240

Ala Leu Thr Pro Thr Val Ala Ser Pro Tyr Ala Gly Ala Pro Leu Glu  
245 250 255

Pro Leu Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr Met Cys  
260 265 270

Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Leu Phe Leu Val Gly  
275 280 285

Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln Asp Cys  
290 295 300

Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met Ala  
305 310 315

<210> 238  
<211> 319  
<212> PRT  
<213> hepatitis C virus

<400> 238

Met Ser Thr Asn Pro Lys Leu Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro  
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Val  
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val Glu Asp  
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Gly Val  
180 185 190

Asn Tyr Arg Asn Ala Ser Gly Val Tyr His Ile Thr Asn Asp Cys Pro  
195 200 205

Asn Ala Ser Ile Val Tyr Glu Thr Asp Asn His Ile Leu His Leu Pro  
210 215 220

Gly Cys Val Pro Cys Val Lys Thr Gly Asn Gln Ser Arg Cys Trp Val  
225 230 235 240

Ala Leu Thr Pro Thr Val Ala Ser Pro Tyr Val Gly Ala Pro Leu Glu  
245 250 255

Pro Leu Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr Val Cys  
260 265 270

Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Leu Phe Leu Val Gly  
275 280 285

Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln Asp Cys  
290 295 300

Asn Cys Ser Ile Tyr Ala Gly His Ile Thr Gly His Arg Met Ala  
305 310 315

<210> 239  
<211> 319  
<212> PRT  
<213> hepatitis C virus

<400> 239

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Met Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Gln Pro Thr Gly Arg Ser Trp Gly Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Ala Asn Glu Gly Leu Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro  
100 105 110

Arg Arg Lys Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Gly Pro Ile  
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp  
145 150 155 160

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Ile Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala Val  
180 185 190

Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp Cys Pro  
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Asp Asn Leu Ile Leu His Ala Pro  
210 215 220

Gly Cys Val Pro Cys Val Met Thr Gly Asn Val Ser Arg Cys Trp Val  
225 230 235 240

Gln Ile Thr Pro Thr Leu Ser Ala Pro Ser Leu Gly Ala Val Thr Ala  
245 250 255

Pro Leu Arg Arg Ala Val Asp Tyr Leu Ala Gly Gly Ala Ala Leu Cys  
260 265 270

Ser Ala Leu Tyr Val Gly Asp Ala Cys Gly Ala Leu Phe Leu Val Gly  
275 280 285

Gln Met Phe Thr Tyr Arg Pro Arg Gln His Ala Thr Val Gln Asn Cys  
290 295 300

Asn Cys Ser Ile Tyr Ser Gly His Val Thr Gly His Arg Met Ala  
305 310 315

<210> 240

<211> 383

<212> PRT

<213> hepatitis C virus

<400> 240

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Thr Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Gln Pro Gln Gly Arg His Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro His Trp Gly Pro Asn Asp Pro  
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys  
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Leu  
130 135 140

Gly Gly Val Ala Ala Ala Leu Ala His Gly Val Arg Ala Ile Glu Asp  
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile  
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Thr Pro Ala Ser Ala Leu  
180 185 190

Thr Tyr Gly Asn Ser Ser Gly Leu Tyr His Leu Thr Asn Asp Cys Pro

195

200

205

Asn Ser Ser Ile Val Leu Glu Ala Asp Ala Met Ile Leu His Leu Pro  
210 215 220

Gly Cys Leu Pro Cys Val Arg Val Asp Asp Arg Ser Thr Cys Trp His  
225 230 235 240

Ala Val Thr Pro Thr Leu Ala Ile Pro Asn Ala Ser Thr Pro Ala Thr  
245 250 255

Gly Phe Arg Arg His Val Asp Leu Leu Ala Gly Ala Ala Val Val Cys  
260 265 270

Ser Ser Leu Tyr Ile Gly Asp Leu Cys Gly Ser Leu Phe Leu Ala Gly  
275 280 285

Gln Leu Phe Thr Phe Gln Pro Arg Arg His Trp Thr Val Gln Asp Cys  
290 295 300

Asn Cys Ser Ile Tyr Thr Gly His Val Thr Gly His Arg Met Ala Trp  
305 310 315 320

Asp Met Met Met Asn Trp Ser Pro Thr Thr Thr Leu Val Leu Ser Ser  
325 330 335

Ile Leu Arg Val Pro Glu Ile Cys Ala Ser Val Ile Phe Gly Gly His  
340 345 350

Trp Gly Ile Leu Leu Ala Val Ala Tyr Phe Gly Met Ala Gly Asn Trp  
355 360 365

Leu Lys Val Leu Ala Val Leu Phe Leu Phe Ala Gly Val Glu Ala  
370 375 380

<210> 241  
<211> 193  
<212> PRT  
<213> hepatitis C virus

<400> 241

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala  
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Glu His Gly Val Arg Ala Val  
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe  
35 40 45

Ser Ile Ser Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Thr Ser  
50 55 60

Ala Val Asn Tyr Arg Asn Ala Ser Gly Val Tyr His Ile Thr Asn Asp  
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp Tyr His Ile Leu His  
85 90 95

Leu Pro Gly Cys Leu Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys  
100 105 110

Trp Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Val Gly Ala Pro  
115 120 125

Leu Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr  
130 135 140

Val Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu  
145 150 155 160

Val Gly Gln Met Phe Ser Phe Gln Pro Arg Arg His Trp Thr Thr Gln  
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Ala Gly His Val Thr Gly His Arg Met  
180 185 190

Ala

<210> 242  
<211> 193  
<212> PRT

<213> hepatitis C virus

<400> 242

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala  
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val  
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe  
35 40 45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser  
50 55 60

Ala Val His Tyr His Asn Thr Ser Gly Ile Tyr His Leu Thr Asn Asp  
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Phe Glu Ala Val His His Ile Leu His  
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Gln Ser Arg Cys  
100 105 110

Trp Val Ala Leu Thr Pro Thr Leu Ala Ala Pro Tyr Leu Gly Ala Pro  
115 120 125

Leu Glu Ser Met Arg Arg His Val Asp Leu Met Val Gly Thr Ala Thr  
130 135 140

Leu Cys Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Ile Phe Leu  
145 150 155 160

Ala Gly Gln Met Phe Thr Phe Arg Pro Arg Leu His Trp Thr Thr Gln  
165 170 175

Glu Cys Asn Cys Ser Thr Tyr Pro Gly His Ile Thr Gly His Arg Met  
180 185 190

Ala

<210> 243  
<211> 193  
<212> PRT  
<213> hepatitis C virus

<400> 243

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala  
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val  
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe  
35 40 45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser  
50 55 60

Ala Gln His Tyr Arg Asn Ile Ser Gly Ile Tyr His Val Thr Asn Asp  
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Met His  
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Thr Ser Arg Cys  
100 105 110

Trp Val Pro Leu Thr Pro Thr Val Ala Ala Pro Tyr Val Gly Ala Pro  
115 120 125

Leu Glu Ser Met Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr  
130 135 140

Val Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu  
145 150 155 160

Val Gly Gln Met Phe Thr Phe Arg Pro Arg Arg His Trp Thr Thr Gln  
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Asp Gly His Ile Thr Gly His Arg Met  
180 185 190

Ala

<210> 244  
<211> 193  
<212> PRT  
<213> hepatitis C virus

<400> 244

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala  
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val  
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe  
35 40 45

Ser Ile Phe Leu Leu Val Leu Leu Ser Arg Leu Thr Val Pro Ala Ser  
50 55 60

Ala Gln His Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp  
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Met His  
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Val Ser Arg Cys  
100 105 110

Trp Ile Pro Leu Thr Pro Thr Val Ala Val Pro Tyr Leu Gly Ala Pro  
115 120 125

Leu Thr Ser Val Arg Gln His Val Asp Leu Met Val Gly Ala Ala Thr  
130 135 140

Leu Cys Ser Ala Leu Tyr Ile Gly Asp His Cys Gly Gly Val Phe Leu  
145 150 155 160

Ala Gly Gln Met Val Ser Phe Gln Pro Arg Arg His Trp Thr Thr Gln  
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Val Gly His Ile Thr Gly His Arg Met  
180 185 190

Ala

<210> 245  
<211> 149  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (14)..(14)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (20)..(20)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (120)..(120)  
<223> Xaa represents any amino acid

<220>  
<221> MISC\_FEATURE  
<222> (134)..(134)  
<223> Xaa represents any amino acid

<400> 245

Asp Gly Ile Asn Tyr Ala Thr Gly Asn Ile Pro Gly Cys Xaa Phe Ser  
1 5 10 15

Ile Phe Leu Xaa Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala  
20 25 30

Thr Asn Tyr Arg Asn Val Ser Gly Ile Tyr His Val Thr Asn Asp Cys  
35 40 45

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu Ala Leu  
50 55 60

Pro Gly Cys Val Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys Trp  
65 70 75 80

Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Thr Ala Ala Pro Leu  
85 90 95

Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr Val  
100 105 110

Cys Ser Ala Leu Tyr Ile Gly Xaa Leu Cys Gly Gly Leu Phe Leu Val  
115 120 125

Gly Gln Met Phe Ser Xaa Gln Pro Arg Arg His Trp Thr Thr Gln Asp  
130 135 140

Cys Asn Cys Ser Ile  
145

<210> 246  
<211> 119  
<212> PRT  
<213> hepatitis C virus

<400> 246

Tyr His Ile Thr Asn Asp Cys Pro Asn Ser Ser Val Val Tyr Glu Thr  
1 5 10 15

Asp His His Ile Leu His Leu Pro Gly Cys Val Pro Cys Val Arg Thr  
20 25 30

Gly Asn Val Ser Arg Cys Trp Thr Pro Val Thr Pro Thr Val Ala Ala  
35 40 45

Val Ser Val Asp Ala Pro Leu Glu Ser Phe Arg Arg His Val Asp Leu  
50 55 60

Met Val Gly Ala Ala Thr Leu Cys Ser Val Leu Tyr Val Gly Asp Leu  
65 70 75 80

Cys Gly Gly Ala Phe Leu Val Gly Gln Met Phe Thr Phe Gln Pro Arg  
85 90 95

Arg His Trp Thr Thr Gln Asp Cys Asn Cys Ser Ile Tyr Thr Gly His  
100 105 110

Ile Thr Gly His Arg Met Ala  
115

<210> 247  
<211> 94  
<212> PRT  
<213> hepatitis C virus

<400> 247

Pro Gln Arg Lys Thr Lys Arg Asn Thr Ile Arg Arg Pro Gln Asp Val  
1 5 10 15

Lys Phe Pro Gly Gly Gln Ile Val Gly Gly Val Tyr Val Leu Pro  
20 25 30

Arg Arg Gly Pro Arg Leu Gly Val Cys Ala Thr Arg Lys Thr Ser Glu  
35 40 45

Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro Ile Pro Lys Ala Arg Arg  
50 55 60

Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly Tyr Pro Trp Pro Leu Tyr  
65 70 75 80

Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp Leu Leu Ser Pro  
85 90

<210> 248  
<211> 100  
<212> PRT  
<213> hepatitis C virus

<400> 248

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Ile  
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Val Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro  
100

<210> 249  
<211> 100  
<212> PRT  
<213> hepatitis C virus

<400> 249

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro  
100

<210> 250  
<211> 68  
<212> PRT  
<213> hepatitis C virus

<400> 250

Thr Asn Arg Arg Pro Thr Asp Val Lys Phe Pro Gly Gly Gln Ile  
1 5 10 15

Val Gly Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val  
20 25 30

Arg Ala Thr Gly Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg  
35 40 45

Gln Pro Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln  
50 55 60

Pro Gly Phe Pro  
65

<210> 251  
<211> 80  
<212> PRT  
<213> hepatitis C virus

<400> 251

Lys Thr Lys Arg Asn Thr Asn Arg Arg Pro Met Asp Val Lys Phe Pro  
1 5 10 15

Gly Gly Gly Gln Ile Val Gly Gly Val Tyr Leu Leu Pro Arg Arg Gly  
20 25 30

Pro Arg Leu Gly Val Arg Ala Thr Arg Lys Thr Ser Glu Arg Ser Gln  
35 40 45

Pro Arg Gly Arg Arg Gln Pro Ile Pro Lys Ala Arg Arg Ser Glu Gly  
50 55 60

Arg Ser Trp Ala Gln Pro Gly Tyr Pro Trp Pro Leu Tyr Gly Asn Glu  
65 70 75 80

<210> 252

<211> 74

<212> PRT

<213> hepatitis C virus

<400> 252

Thr Asn Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile  
1 5 10 15

Val Gly Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val  
20 25 30

Arg Ala Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg  
35 40 45

Gln Pro Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln  
50 55 60

Pro Gly Tyr Pro Trp Pro Leu Tyr Gly Lys  
65 70

<210> 253  
<211> 100  
<212> PRT  
<213> hepatitis C virus

<400> 253

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn  
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly  
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala  
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro  
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Ala Gly  
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp  
85 90 95

Leu Leu Ser Pro  
100

<210> 254  
<211> 128  
<212> PRT  
<213> hepatitis C virus

<400> 254

Val Glu Val Lys Asp Thr Gly Asp Ser Tyr Met Pro Thr Asn Asp Cys  
1 5 10 15

Ser Asn Ser Ser Ile Val Trp Gln Leu Glu Gly Ala Val Leu His Thr  
20 25 30

Pro Gly Cys Val Pro Cys Glu Arg Thr Ala Asn Val Ser Arg Cys Trp  
35 40 45

Val Pro Val Ala Pro Asn Leu Ala Ile Ser Gln Pro Gly Ala Leu Thr  
50 55 60

Lys Gly Leu Arg Ala His Ile Asp Ile Ile Val Met Ser Ala Thr Val  
65 70 75 80

Cys Ser Ala Leu Tyr Val Gly Asp Val Cys Gly Ala Leu Met Leu Ala  
85 90 95

Ala Gln Val Val Val Ser Pro Gln His His Thr Phe Val Gln Glu  
100 105 110

Cys Asn Cys Ser Ile Tyr Pro Gly Arg Ile Thr Gly His Arg Met Ala  
115 120 125

<210> 255  
<211> 128  
<212> PRT  
<213> hepatitis C virus

<400> 255

Leu Glu Trp Arg Asn Thr Ser Gly Leu Tyr Val Leu Thr Asn Asp Cys  
1 5 10 15

Ser Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Val Ile Leu His Thr  
20 25 30

Pro Gly Cys Ile Pro Cys Val Gln Asp Gly Asn Thr Ser Thr Cys Trp  
35 40 45

Thr Pro Val Thr Pro Thr Val Ala Val Lys Tyr Val Gly Ala Thr Thr  
50 55 60

Ala Ser Ile Arg Ser His Val Asp Leu Leu Val Gly Ala Ala Thr Met  
65 70 75 80

Cys Ser Ala Leu Tyr Val Gly Asp Met Cys Gly Ala Val Phe Leu Val

85

90

95

Gly Gln Ala Phe Thr Phe Arg Pro Arg Arg His Gln Thr Val Gln Thr  
100 105 110

Cys Asn Cys Ser Leu Tyr Pro Gly His Leu Ser Gly His Arg Met Ala  
115 120 125

<210> 256  
<211> 128  
<212> PRT  
<213> hepatitis C virus

<400> 256

Glu His Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp Cys  
1 5 10 15

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu His Leu  
20 25 30

Pro Gly Cys Val Pro Cys Val Met Thr Gly Asn Thr Ser Arg Cys Trp  
35 40 45

Thr Pro Val Thr Pro Thr Val Ala Val Ala His Pro Gly Ala Pro Leu  
50 55 60

Glu Ser Phe Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr Leu  
65 70 75 80

Cys Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Ala Phe Leu Met  
85 90 95

Gly Gln Met Ile Thr Phe Arg Pro Arg Arg His Trp Thr Thr Gln Glu  
100 105 110

Cys Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met Ala  
115 120 125

<210> 257  
<211> 128

<212> PRT

<213> hepatitis C virus

<400> 257

Glu His Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp Cys  
1 5 10 15

Pro Asn Ser Ser Val Val Tyr Glu Thr Asp His His Ile Leu His Leu  
20 25 30

Pro Gly Cys Val Pro Cys Val Arg Ala Gly Asn Val Ser Arg Cys Trp  
35 40 45

Thr Pro Val Thr Pro Thr Val Ala Ala Val Ser Met Asp Ala Pro Leu  
50 55 60

Glu Ser Phe Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr Val  
65 70 75 80

Cys Ser Val Leu Tyr Val Gly Asp Leu Cys Gly Gly Ala Phe Leu Val  
85 90 95

Gly Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln Asp  
100 105 110

Cys Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met Ala  
115 120 125

<210> 258

<211> 128

<212> PRT

<213> hepatitis C virus

<400> 258

Val His Tyr Arg Asn Ala Ser Gly Val Tyr His Val Thr Asn Asp Cys  
1 5 10 15

Pro Asn Thr Ser Ile Val Tyr Glu Thr Glu His His Ile Met His Leu  
20 25 30

Pro Gly Cys Val Pro Cys Val Arg Thr Glu Asn Thr Ser Arg Cys Trp  
35 40 45

Val Pro Leu Thr Pro Thr Val Ala Ala Pro Tyr Pro Asn Ala Pro Leu  
50 55 60

Glu Ser Met Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr Met  
65 70 75 80

Cys Ser Ala Phe Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu Val  
85 90 95

Gly Gln Leu Phe Asp Phe Arg Pro Arg Arg His Trp Thr Thr Gln Asp  
100 105 110

Cys Asn Cys Ser Ile Tyr Pro Gly His Val Ser Gly His Arg Met Ala  
115 120 125

<210> 259  
<211> 128  
<212> PRT  
<213> hepatitis C virus

<400> 259

Ile His Tyr Arg Asn Ala Ser Gly Val Tyr His Val Thr Asn Asp Cys  
1 5 10 15

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu His Leu  
20 25 30

Pro Gly Cys Leu Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys Trp  
35 40 45

Val Ala Leu Ser Pro Thr Val Ala Ala Pro Tyr Ile Gly Ala Ala Pro Val  
50 55 60

Glu Ser Phe Arg Arg His Val Asp Met Met Val Gly Ala Ala Thr Val  
65 70 75 80

Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu Val  
85 90 95

Gly Gln Met Phe Ser Phe Arg Pro Arg Arg His Trp Thr Thr Gln Asp  
100 105 110

Cys Asn Cys Ser Ile Tyr Ala Gly His Ile Thr Gly His Gly Met Ala  
115 120 125

<210> 260  
<211> 128  
<212> PRT  
<213> hepatitis C virus

<400> 260

Val Asn Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp Cys  
1 5 10 15

Pro Asn Ser Ser Ile Val Tyr Glu Thr Glu His His Ile Leu His Leu  
20 25 30

Pro Gly Cys Leu Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys Trp  
35 40 45

Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Ile Gly Ala Pro Leu  
50 55 60

Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr Ala  
65 70 75 80

Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu Val  
85 90 95

Gly Gln Met Phe Ser Phe Gln Pro Arg Arg His Trp Thr Thr Gln Asp  
100 105 110

Cys Asn Cys Ser Ile Tyr Ala Gly His Val Thr Gly His Arg Met Ala  
115 120 125

<210> 261

<211> 169  
<212> PRT  
<213> hepatitis C virus

<400> 261

Leu Ala His Gly Val Arg Ala Val Glu Asp Gly Ile Asn Tyr Ala Thr  
1 5 10 15

Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile Phe Leu Leu Ala Leu Leu  
20 25 30

Ser Cys Leu Thr Val Pro Ala Ser Ala Val His Tyr His Asn Thr Ser  
35 40 45

Gly Ile Tyr His Leu Thr Asn Asp Cys Pro Asn Ser Ser Ile Val Phe  
50 55 60

Glu Ala Val His His Ile Leu His Leu Pro Gly Cys Val Pro Cys Val  
65 70 75 80

Arg Thr Gly Asn Gln Ser Arg Cys Trp Val Ala Leu Thr Pro Thr Leu  
85 90 95

Ala Ala Pro Tyr Leu Gly Ala Pro Leu Glu Ser Met Arg Arg His Val  
100 105 110

Asp Leu Met Val Gly Thr Ala Thr Leu Cys Ser Ala Leu Tyr Val Gly  
115 120 125

Asp Leu Cys Gly Gly Ile Phe Leu Ala Gly Gln Met Phe Thr Phe Arg  
130 135 140

Pro Arg Leu His Trp Thr Thr Gln Glu Cys Asn Cys Ser Thr Tyr Pro  
145 150 155 160

Gly His Ile Thr Gly His Arg Met Ala  
165

<210> 262  
<211> 128  
<212> PRT

<213> hepatitis C virus

<400> 262

Val His Tyr His Asn Thr Ser Gly Ile Tyr His Ile Thr Asn Asp Cys  
1 5 10 15

Pro Asn Ser Ser Ile Val Phe Glu Ala Glu His His Ile Leu His Leu  
20 25 30

Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Gln Ser Arg Cys Trp  
35 40 45

Ile Ala Leu Thr Pro Thr Leu Ala Ala Pro His Ile Gly Ala Pro Leu  
50 55 60

Glu Ser Met Arg Arg His Val Asp Leu Met Val Gly Thr Ala Thr Leu  
65 70 75 80

Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Ile Phe Leu Val  
85 90 95

Gly Gln Met Phe Asn Phe Arg Pro Arg Leu His Trp Thr Thr Gln Glu  
100 105 110

Cys Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Ala  
115 120 125

<210> 263

<211> 128

<212> PRT

<213> hepatitis C virus

<400> 263

Val Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp Cys  
1 5 10 15

Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Leu Ile Leu His Ala  
20 25 30

Pro Gly Cys Val Pro Cys Val Arg Lys Asp Asn Val Ser Arg Cys Trp  
35 40 45

Val Gln Ile Thr Pro Thr Leu Ser Ala Pro Ser Phe Gly Ala Val Thr  
50 55 60

Ala Pro Leu Arg Arg Ala Val Asp Tyr Leu Val Gly Gly Ala Ala Leu  
65 70 75 80

Cys Ser Ala Leu Tyr Val Gly Asp Ala Cys Gly Ala Leu Phe Leu Val  
85 90 95

Gly Gln Met Phe Thr Tyr Arg Pro Arg Gln His Ala Thr Val Gln Asp  
100 105 110

Cys Asn Cys Ser Ile Tyr Ser Gly His Val Thr Gly His Gln Met Ala  
115 120 125

<210> 264  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 264  
ctccacagtc actgagagcg acatccgtac ggaggaggca atctaccaat gttgtgacct 60  
cgaccccaa gcccgcgtgg ccatcaagtc cctcaccgag aggctttatg ttgggggccc 120  
tcttaccaat tcaagggggg agaactgcgg ctatgcagg tgccgcgcga gcggcgtact 180  
gacaactagc tgtggtaaca ccctcaacttg ctacatcaag gcccggcag cctgtcgagc 240  
cgcagggctc caggactgca ccatgctcgt gtgtggcgac gacttagtcg ttatctgtga 300  
aagcgcgggg gtccaggagg acgcggcgag cctgagagcc 340

<210> 265  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 265  
ctcaacggtc actgagaatg acatccgtac tgaggaatca atttaccaat gttgtgactt 60  
ggcccccgaa gccaggcagg ccataaggc gctcacagag cggctttatg tcgggggtcc 120  
cctgactaat tcgaaggggc agaactgcgg ttatcgccgg tgccgcgcaa gtggcgtgct 180  
gacgactagc tgcggcaaca ccctcacatg ttacttgaag gccactgcgg cctgtcgagc 240  
tgcaaagctc caggactgca cgatgctcgt gaacggagac gaccttgcg 300  
gagtgcgaaa acccaggagg atgcggcgcc cctacgagcc 340

<210> 266  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<220>  
<221> misc\_feature  
<222> (1)..(1)  
<223> n represents any nucleotide

<400> 266  
ntcaacagtc accgagaacg acatccgtgt tgaggagtca atttaccaat gttgtgactt 60  
ggcccccgag gccagacagg ccataaagtc gctcacagag cggctttata tcgggggtcc 120  
cctgactaat tcaaaggggc agaactgtgg ctatcgccga tgccgcgcaa gcggcgtgct 180  
gacgaccagc tgcggtaata cccttacatg ttacctaaag gcctctgcag cctgtcgagc 240  
tgcaagctc caggactgca cgatgctcgt gtgcggggac gaccttgcg 300  
aagcgcgaaa acccaagagg acgcggcgag cctacgagtc 340

<210> 267  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 267  
ctcaaccgtc actgagagag acatcaggac tgaggagtcc atatatcggt cttgttcctt 60  
gccccgaggag gcccacactg ccatacactc actgactgag agactttacg tgggaggggcc 120

catgttcaac	agcaagggcc	agacctgcgg	gtacaggcgt	tgccgcgcca	gcggggtgct	180
taccactagc	atggggaaaca	ccatcacatg	ctatgtaaa	gccttagcgg	cctgttaaggc	240
tgcagggata	attgcgccca	caatgctggt	atgcggcgt	gacttggttg	tcatctcaga	300
gagccagggg	accgaggagg	acgagcggaa	cctgagagcc			340

<210> 268  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 268						
ctcaaccgtc	acggagaggg	acataagaac	agaagaatcc	atatacagg	cttggttctct	60
gcctcaagaa	gccagaactg	tcatacactc	gctcaactgag	agactttacg	taggagggcc	120
catgacaaac	agcaaaggc	aatcctgcgg	ctacaggcgt	tgccgcgcaa	gcgggttttt	180
caccaccaggc	atggggaaata	ccatgacatg	ttacatcaaa	gcccttgcag	cgtgttaaggc	240
tgcagggatc	gtggaccctg	ttatgttggt	gtgtggagac	gacctggtcg	tcatctcaga	300
gagccaaggt	aacgaggagg	acgagcggaa	cctgagagct			340

<210> 269  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 269						
ctcaactgtc	actgaacagg	acatcagggt	ggaagaggag	atataccaat	gctgtaacct	60
tgaaccggag	gccaggagag	tgtatctcctc	cctcacggag	cggctttact	gcggggggccc	120
tatgttcaac	agcaaggggg	cccaatgtgg	ttatcgccgg	tgccgtgcca	gtggagtccct	180
gcctaccaggc	ttcggcaaca	caatcacttg	ttacatcaag	gccacagcgg	ctgcgaaggc	240
cgcaggcctc	cggaaccgg	actttttgt	ctgcggagat	gatctggtcg	tagtggctga	300
gagcgatggc	gtcgatgagg	atagagcagc	cctgagagcc			340

<210> 270  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 270  
ctctactgtc actgaacatg acatcaggac ggaggaggag atataccat gctgtgacct 60  
tgagccagag gctcggagg cgatcagcgc tctcacagag cggctgtaca tcggaggtcc 120  
catgtacaac agtaagggc tccagtgcgg ctatcgccgc tgccgcgcca gcggcgtctt 180  
gcctaccaggc ttccggcaata caataacctg ttacatcaag gccactgcag ccagcaggc 240  
tgccggtctc aaagacccat ctttccttgc ctgcggagac gatttggtgg ttgtatctga 300  
aagctgcggc gtcgaggagg acagagcagc tctgcgagcc 340

<210> 271  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 271  
ctccactgtc accgaaaagg acatcagggt cgaggaggag gtctatcagt gttgtgacct 60  
ggagccccgaa gcccccaagg caattaccgc cctaacagag agactctacg tggcggtcc 120  
catgcataac agcaagggag acctgtgcgg gtatcgcaga tgctcgccaa gcggcgtcta 180  
caccaccaggc ttccggaaaca cactgacgtg ctacctaaa gcctcagccg ctatcaaagc 240  
ggcggggctg agagactgca ccatgttggt ctgtggtgat gacctgggttg tcacgcgtga 300  
gagcgatggc gtagaggagg acaaacgacc cctcggagcc 340

<210> 272  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 272  
ctccactgtc accgaaaagg acatcagggt cgaggaggag gtatatcagt gttgtgacct 60

ggagcccgag gcccgcagag caattaccgc cctaacagag agactctacg tggcggtcc	120
catgcataac agcaggggag acctgtgcgg gtatgcaga tgccgtgcga gcggcgtcta	180
caccaccagc ttcgggaaca cactgacgtg ctatctaaa gcctcagccg ctatcagagc	240
ggcggggctg agagactgca ccatgttggt ctgtggtgat gacctggtcg tcattgctga	300
aagcgatggc gtagaggagg acaaacgagc cctcggagcc	340

<210> 273  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 273	
ctccactgta accgaaaaag acatcagggt cgaggaggag gtatatcagt gttgtgacct	60
ggagcccgaa gcccgcagg taattaccgc cctaacagag agactctatg tggcggtcc	120
catgcataat agcaaaggag acctgtgcgg gtatgcaga tgccgcgcaa gcggcgtcta	180
caccaccagc ttcgggaaca cactgacgtg ctatctaaa gcctcagccg ccatcagggc	240
gtcagggctg agagactgca ctatgttggt ctatggtgac gacctggtcg tcattgccga	300
gagcgatggc gtagaggagg acaaacgagc cctcggagtc	340

<210> 274  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 274	
ctccactgta accgaaaagg acatcagggt cgaggaggag gtgtatcagt gttgtgacct	60
ggagcccgag gcccgcagg caattactgc cctaacagag agactctatg tggcggtcc	120
catgcataac agcaaggagg acctgtgtgg gtatgcaga tgccgcgcaa gcggcgtcta	180
caccaccagc ttcgggaaca cactgacgtg ctacctaaa gcctcagccg ctatcagagc	240
ggcggggctg agagactgca ccatgttggt ctgtggtgat gacctggtcg tcatcgctga	300
gagcgatggc gttgaggagg acaaacgagc cctcggagcc	340

<210> 275  
<211> 340  
<212> DNA  
<213> hepatitis C virus  
  
<220>  
<221> misc\_feature  
<222> (329)..(329)  
<223> n represents any nucleotide

<400> 275  
ctccactgtg actgagagag acatcaaggt cgaagaagaa gtctatcagt gttgtatct 60  
ggagcccgag gcccgcagg taatagccgc cctcacggag agactctacg tgggccc 120  
catgcataac agcaagggag acctttgcgg gtatcgtaga tgccgcgcga gcggcgtata 180  
caccaccagg ttcgggaaca caatgacgtg ctacctaag gcctcagcag ccatcaggc 240  
tgccgggcta aaggattgca ccatgctggt ttgcggtgac gacctagtcg tgatcgccga 300  
gagcggtggc gttgaggagg acaaacganc cctcggagct 340

<210> 276  
<211> 340  
<212> DNA  
<213> hepatitis C virus

<400> 276  
ctccacggtg accgaaaggg atatcaggac cgaggaagag atctaccagt gctgcgacct 60  
ggagccgaa gcccgcagg tgatatccgc cctaacggaa agactctacg tgggccc 120  
catgtacaac tccaaggggg acctatgcgg gcaacggagg tgccgcgc 180  
caccaccagg ttcgggaaca ctgtaacgtg ttatctcaag gccgttgcgg ctactaggc 240  
cgcaggtctg aaaggttgca gcatgctggt ttgtggagac gacttagtcg tcatctgcga 300  
gagcggtggc gtagaggagg atgcaagagc cctccgagcc 340

<210> 277  
<211> 340  
<212> DNA

<213> hepatitis C virus

<400> 277  
ctcgaccgtt accgaacatg acataatgac tgaagagtct atttaccaat cattgtactt 60  
gcagcctgag gcgcgtgtgg caatacggtc actcacccaa cgcctgtact gtggaggccc 120  
catgtataac agcaagggc aacaatgtgg ttatcgtaga tgccgcgcca gcggcgtctt 180  
caccactagt atgggcaaca ccatgacgtg ctacattaag gctttagcct cctgttagagc 240  
cgcaaagctc caggactgca cgctcctggt gtgtggtgat gatcttggcc 300  
gagccagggg acgcacgagg ataaagcgag cctgagagcc 340

<210> 278  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 278

Ser Thr Val Thr Glu Ser Asp Ile Arg Thr Glu Glu Ala Ile Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Asp Pro Gln Ala Arg Val Ala Ile Lys Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn Ser Arg Gly Glu Asn  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Ile Lys Ala Arg Ala Ala Cys Arg Ala  
65 70 75 80

Ala Gly Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Cys Glu Ser Ala Gly Val Gln Glu Asp Ala Ala Ser Leu Arg  
100 105 110

Ala

<210> 279  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 279

Ser Thr Val Thr Glu Asn Asp Ile Arg Thr Glu Glu Ser Ile Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Ala Pro Glu Ala Arg Gln Ala Ile Arg Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn Ser Lys Gly Gln Asn  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Thr Ala Ala Cys Arg Ala  
65 70 75 80

Ala Lys Leu Gln Asp Cys Thr Met Leu Val Asn Gly Asp Asp Leu Val  
85 90 95

Val Ile Cys Glu Ser Ala Gly Thr Gln Glu Asp Ala Ala Leu Arg  
100 105 110

Ala

<210> 280  
<211> 74  
<212> PRT  
<213> hepatitis C virus

<400> 280

Ile Tyr Gln Cys Cys Asp Leu His Pro Asp Ala Arg Ala Ala Ile Lys  
1 5 10 15

Asn Leu Thr Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn Ser Lys  
20 25 30

Gly Glu Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr  
35 40 45

Thr Ser Cys Gly Asn Thr Leu Thr Cys Tyr Ile Lys Ala Leu Ala Ala  
50 55 60

Cys Arg Ala Ala Gly Leu Arg Asp Cys Thr  
65 70

<210> 281

<211> 113

<212> PRT

<213> hepatitis C virus

<400> 281

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Arg  
1 5 10 15

Ala Cys Ser Leu Pro Glu Glu Ala His Thr Ala Ile His Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Phe Asn Ser Lys Gly Gln Thr  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Met  
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Val Lys Ala Leu Ala Ala Cys Lys Ala  
65 70 75 80

Ala Gly Ile Ile Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ser Glu Ser Gln Gly Thr Glu Glu Asp Glu Arg Asn Leu Arg  
100 105 110

Ala

<210> 282  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 282

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Gln  
1 5 10 15

Ala Cys Ser Leu Pro Gln Glu Ala Arg Thr Val Ile His Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Thr Asn Ser Lys Gly Gln Ser  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met  
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Leu Ala Ala Cys Lys Ala  
65 70 75 80

Ala Gly Ile Val Asp Pro Val Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ser Glu Ser Gln Gly Asn Glu Glu Asp Glu Arg Asn Leu Arg  
100 105 110

Ala

<210> 283  
<211> 74  
<212> PRT  
<213> hepatitis C virus

<400> 283

Ile Tyr Gln Ser Cys Ser Leu Pro Glu Glu Ala Arg Thr Ala Ile His  
1 5 10 15

Ser Leu Thr Glu Arg Leu Tyr Val Gly Gly Pro Met Thr Asn Ser Lys  
20 25 30

Gly Gln Ser Cys Gly Tyr Arg Arg Cys Arg Ala Ser Ala Val Leu Thr  
35 40 45

Thr Ser Met Gly Asn Thr Leu Thr Cys Tyr Val Lys Ala Arg Ala Ala  
50 55 60

Cys Asn Ala Ala Gly Ile Val Ala Pro Thr  
65 70

<210> 284

<211> 113

<212> PRT

<213> hepatitis C virus

<400> 284

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Leu  
1 5 10 15

Ala Cys Ser Leu Pro Glu Gln Ala Arg Thr Ala Ile His Ser Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Leu Asn Ser Lys Gly Gln Thr  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met  
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Val Lys Ala Gln Ala Ala Cys Lys Ala  
65 70 75 80

Ala Gly Ile Ile Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val

85

90

95

Val Ile Ser Glu Ser Gln Gly Thr Glu Glu Asp Glu Arg Asn Leu Arg  
100 105 110

Ala

<210> 285  
<211> 71  
<212> PRT  
<213> hepatitis C virus

<400> 285

Leu Thr Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly  
1 5 10 15

Ala Gln Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr  
20 25 30

Ser Phe Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Ala Ala Ala  
35 40 45

Arg Ala Ala Gly Leu Arg Asn Pro Asp Phe Leu Val Cys Gly Asp Asp  
50 55 60

Leu Val Val Val Ala Glu Ser  
65 70

<210> 286  
<211> 71  
<212> PRT  
<213> hepatitis C virus

<400> 286

Leu Thr Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly  
1 5 10 15

Ala Gln Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr  
20 25 30

Ser Phe Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Ala Ala Ala  
35 40 45

Lys Ala Ala Gly Leu Arg Ser Pro Asp Phe Leu Val Cys Gly Asp Asp  
50 55 60

Leu Val Val Val Ala Glu Ser  
65 70

<210> 287  
<211> 71  
<212> PRT  
<213> hepatitis C virus

<400> 287

Leu Thr Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly  
1 5 10 15

Ala Gln Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr  
20 25 30

Ser Phe Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Ala Ala Ala  
35 40 45

Lys Ala Ala Gly Leu Arg Asn Pro Asp Phe Leu Val Cys Gly Asp Asp  
50 55 60

Leu Val Val Val Ala Glu Ser  
65 70

<210> 288  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 288

Ser Thr Val Thr Glu His Asp Ile Arg Thr Glu Glu Glu Ile Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Ala Ile Ser Ala Leu Thr  
20 25 30

Glu Arg Leu Tyr Ile Gly Gly Pro Met Tyr Asn Ser Lys Gly Leu Gln  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr Ser Phe  
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Lys Ala Ala Ser Arg Ala  
65 70 75 80

Ala Gly Leu Lys Asp Pro Ser Phe Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Val Ser Glu Ser Cys Gly Val Glu Glu Asp Arg Ala Ala Leu Arg  
100 105 110

Ala

<210> 289  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 289

Ser Thr Val Thr Glu Lys Asp Ile Arg Val Glu Glu Glu Val Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Ala Ile Thr Ala Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe

50

55

60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Lys Ala  
65 70 75 80

Ala Gly Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Lys Arg Pro Leu Gly  
100 105 110

Ala

<210> 290

<211> 113

<212> PRT

<213> hepatitis C virus

<400> 290

Ser Thr Val Thr Glu Lys Asp Ile Arg Val Glu Glu Glu Val Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Arg Ala Ile Thr Ala Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Arg Gly Asp Leu  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala  
65 70 75 80

Ala Gly Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Lys Arg Ala Leu Gly  
100 105 110

Ala

<210> 291  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 291

Ser Thr Val Thr Glu Lys Asp Ile Arg Val Glu Glu Glu Val Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Thr Ala Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala  
65 70 75 80

Ser Gly Leu Arg Asp Cys Thr Met Leu Val Tyr Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Lys Arg Ala Leu Gly  
100 105 110

Val

<210> 292  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 292

Ser Thr Val Thr Glu Lys Asp Ile Arg Val Glu Glu Glu Val Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Ala Ile Thr Ala Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala  
65 70 75 80

Ala Gly Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Lys Arg Ala Leu Gly  
100 105 110

Ala

<210> 293  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<220>  
<221> MISC\_FEATURE  
<222> (110)..(110)  
<223> Xaa represents any amino acid

<400> 293

Ser Thr Val Thr Glu Arg Asp Ile Lys Val Glu Glu Glu Val Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Ala Ala Leu Thr

20

25

30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe  
50 55 60

Gly Asn Thr Met Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala  
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Gly Gly Val Glu Glu Asp Lys Arg Xaa Leu Gly  
100 105 110

Ala

<210> 294  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 294

Ser Thr Val Thr Glu Arg Asp Ile Arg Val Glu Glu Glu Val Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Thr Arg Lys Val Ile Ser Ala Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Arg Gly Asp Leu  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe  
50 55 60

Gly Asn Thr Leu Thr Cys Phe Leu Lys Ala Thr Ala Ala Thr Lys Ala  
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Arg Arg Ala Leu Gly  
100 105 110

Ala

<210> 295  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 295

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Glu Ile Tyr Gln  
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Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Ser Ala Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Tyr Asn Ser Lys Gly Asp Leu  
35 40 45

Cys Gly Gln Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe  
50 55 60

Gly Asn Thr Val Thr Cys Tyr Leu Lys Ala Val Ala Ala Thr Arg Ala  
65 70 75 80

Ala Gly Leu Lys Gly Cys Ser Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Cys Glu Ser Gly Gly Val Glu Glu Asp Ala Arg Ala Leu Arg  
100 105 110

Ala

<210> 296  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 296

Ser Thr Val Thr Glu Arg Asp Ile Arg Val Glu Glu Glu Ile Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Ser Ala Leu Thr  
20 25 30

Glu Arg Leu Tyr Lys Gly Gly Pro Met Tyr Asn Ser Lys Gly Asp Leu  
35 40 45

Cys Gly Leu Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe  
50 55 60

Gly Asn Thr Val Thr Cys Tyr Leu Lys Ala Thr Ala Ala Thr Arg Ala  
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Gly Gly Val Glu Glu Asp Ala Arg Ala Leu Arg  
100 105 110

Ala

<210> 297  
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<212> PRT  
<213> hepatitis C virus

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<223> Xaa represents any amino acid

<400> 297

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Cys Cys Asn Leu Glu Xaa Asp Xaa Arg Lys Val Ile Asn Ala Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu  
35 40 45

Cys Gly Ile Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Thr Ala Ala Thr Arg Ala  
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ala Glu Ser Ile Gly Ile Asp Glu Asp Lys Gln Ala Leu Arg  
100 105 110

Thr

<210> 298

<211> 113

<212> PRT

<213> hepatitis C virus

<220>

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<222> (109)..(109)

<223> Xaa represents any amino acid

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<222> (111)..(111)

<223> Xaa represents any amino acid

<400> 298

Ser Thr Val Xaa Glu Arg Asp Ile Arg Thr Glu Gly Glu Val Tyr Gln  
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Thr Ala Leu Thr  
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Phe Asn Ser Lys Gly Asp Leu  
35 40 45

Cys Gly Gln Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Phe  
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Thr Ala Ala Thr Arg Ala  
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Val Ile Ser Glu Ser Ala Gly Val Glu Glu Asp Pro Xaa Thr Xaa Arg  
100 105 110

Pro

<210> 299  
<211> 74  
<212> PRT  
<213> hepatitis C virus

<400> 299

Val Tyr Gln Cys Cys Asn Leu Glu Pro Glu Ala Arg Lys Ala Ile Thr  
1 5 10 15

Ala Leu Thr Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys  
20 25 30

Gly Asp Leu Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr  
35 40 45

Thr Ser Phe Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Thr Ala Ala  
50 55 60

Ile Arg Ala Ala Gly Leu Arg Asp Cys Thr  
65 70

<210> 300  
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<400> 300

Ser Thr Val Thr Glu His Asp Ile Met Thr Glu Glu Ser Ile Tyr Gln  
1 5 10 15

Ser Cys Asp Leu Gln Pro Glu Ala Arg Ala Ala Ile Arg Ser Leu Thr  
20 25 30

Gln Arg Leu Tyr Cys Gly Gly Pro Met Tyr Asn Ser Lys Gly Gln Gln  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met  
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Leu Ala Ser Cys Arg Ala  
65 70 75 80

Ala Arg Leu Arg Asp Cys Thr Leu Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Ala Ile Cys Glu Ser Gln Gly Thr His Glu Asp Glu Ala Ser Leu Arg  
100 105 110

Ala

<210> 301  
<211> 113  
<212> PRT  
<213> hepatitis C virus

<400> 301

Ser Thr Val Thr Glu His Asp Ile Met Thr Glu Glu Ser Ile Tyr Gln  
1 5 10 15

Ser Leu Tyr Leu Gln Pro Glu Ala Arg Val Ala Ile Arg Ser Leu Thr  
20 25 30

Gln Arg Leu Tyr Cys Gly Gly Pro Met Tyr Asn Ser Lys Gly Gln Gln  
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met  
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Leu Ala Ser Cys Arg Ala  
65 70 75 80

Ala Lys Leu Gln Asp Cys Thr Leu Leu Val Cys Gly Asp Asp Leu Val  
85 90 95

Ala Ile Cys Glu Ser Gln Gly Thr His Glu Asp Lys Ala Ser Leu Arg  
100 105 110

Ala

<210> 302  
<211> 13  
<212> PRT  
<213> hepatitis C virus

<400> 302

Ser Ala Gly Thr Gln Glu Asp Ala Ala Ser Leu Arg Val  
1 5 10